



## SEQUENCE LISTING

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<120> COMPLEXES OF ALPHA (2) MACROGLOBULIN AND ANTIGENIC MOLECULES FOR IMMUNOTHERAPY

<130> 8449-178-999

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<210> 1

<211> 14849

<212> DNA

<213> Mus sp.

<220>

<221> CDS

<222> (442)..(14079)

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gagggggaga ggagcgagga gtaaagcagg ggtgaagggt tcgaatttgg gggcaggggg 240

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Pro Leu Leu Ser Ala Leu Val Ser Gly Ala Thr Met Asp Ala Pro Lys  
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Thr Cys Ser Pro Lys Gln Phe Ala Cys Arg Asp Gln Ile Thr Cys Ile  
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Asp Glu Ala Pro Glu Ile Cys Pro Gln Ser Lys	Ala Gln Arg Cys Pro		
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cca aat gag cac agt tgt ctg ggg act gag cta	tgt gtc ccc atg tct		711
Pro Asn Glu His Ser Cys Leu Gly Thr Glu Leu	Cys Val Pro Met Ser		
75	80	85	90
cgt ctc tgc aac ggg atc cag gac tgc atg gat	ggc tca gac gag ggt		759
Arg Leu Cys Asn Gly Ile Gln Asp Cys Met Asp	Gly Ser Asp Glu Gly		
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gct cac tgc cga gag ctc cga gcc aac tgt tct	cga atg ggt tgt caa		807
Ala His Cys Arg Glu Leu Arg Ala Asn Cys Ser	Arg Met Gly Cys Gln		
110	115	120	
cac cat tgt gta cct aca ccc agt ggg ccc acg	tgc tac tgt aac agc		855
His His Cys Val Pro Thr Pro Ser Gly Pro Thr	Cys Tyr Cys Asn Ser		
125	130	135	
agc ttc cag ctc gag gca gat ggc aag acg tgc	aaa gat ttt gac gag		903
Ser Phe Gln Leu Glu Ala Asp Gly Lys Thr Cys	Lys Asp Phe Asp Glu		
140	145	150	
tgt tcc gtg tat ggc acc tgc agc cag ctt tgc	acc aac aca gat ggc		951
Cys Ser Val Tyr Gly Thr Cys Ser Gln Leu Cys	Thr Asn Thr Asp Gly		
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tcc ttc aca tgt ggc tgt gtt gaa ggc tac ctg	ctg caa ccg gac aac		999
Ser Phe Thr Cys Gly Cys Val Glu Gly Tyr Leu	Leu Gln Pro Asp Asn		
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cgc tcc tgc aag gcc aag aat gag cca gta gat	cgg ccg cca gtg cta		1047
Arg Ser Cys Lys Ala Lys Asn Glu Pro Val Asp	Arg Pro Pro Val Leu		
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Leu Ile Ala Asn Ser Gln Asn Ile Leu Ala Thr	Tyr Leu Ser Gly Ala		
205	210	215	
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Gln Val Ser Thr Ile Thr Pro Thr Ser Thr Arg	Gln Thr Thr Ala Met		
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Asp Phe Ser Tyr Ala Asn Glu Thr Val Cys Trp	Val His Val Gly Asp		
235	240	245	250
agt gct gcc cag aca cag ctc aag tgt gcc cg	g atg cct ggc ctg aag		1239
Ser Ala Ala Gln Thr Gln Leu Lys Cys Ala Arg	Met Pro Gly Leu Lys		
255	260	265	
ggc ttt gtg gat gag cat acc atc aac atc tcc	ctc agc ctg cac cac		1287
Gly Phe Val Asp Glu His Thr Ile Asn Ile Ser	Leu Ser Leu His His		
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gtg gag cag atg gca atc gac tgg ctg acg gga	aac ttc tac ttt gtc		1335
Val Glu Gln Met Ala Ile Asp Trp Leu Thr Gly	Asn Phe Tyr Phe Val		
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Asp Asp Ile Asp Asp Arg Ile Phe Val Cys Asn Arg Asn Gly Asp Thr			
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Cys Val Thr Leu Leu Asp Leu Glu Leu Tyr Asn Pro Lys Gly Ile Ala			
315	320	325	330
ttg gac ccc gcc atg ggg aag gtg ttc ttc act gac tac ggg cag atc		1479	
Leu Asp Pro Ala Met Gly Lys Val Phe Phe Thr Asp Tyr Gly Gln Ile			
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Pro Lys Val Glu Arg Cys Asp Met Asp Gly Gln Asn Arg Thr Lys Leu			
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gtg gat agc aag atc gtg ttt cca cac ggc atc acc ctg gac ctg gtc		1575	
Val Asp Ser Lys Ile Val Phe Pro His Gly Ile Thr Leu Asp Leu Val			
365	370	375	
agc cgc ctc gtc tac tgg gcg gac gcc tac cta gac tac atc gag gtg		1623	
Ser Arg Leu Val Tyr Trp Ala Asp Ala Tyr Leu Asp Tyr Ile Glu Val			
380	385	390	
gta gac tac gaa ggg aag ggt cgg cag acc atc atc caa ggc atc ctg		1671	
Val Asp Tyr Glu Gly Lys Gly Arg Gln Thr Ile Ile Gln Gly Ile Leu			
395	400	405	410
atc gag cac ctg tac ggc ctg acc gtg ttt gag aac tat ctc tac gcc		1719	
Ile Glu His Leu Tyr Gly Leu Thr Val Phe Glu Asn Tyr Leu Tyr Ala			
415	420	425	
acc aac tcg gac aat gcc aac acg cag cag aag acg acg gtg atc cga		1767	
Thr Asn Ser Asp Asn Ala Asn Thr Gln Gln Lys Thr Ser Val Ile Arg			
430	435	440	
gtg aac cgg ttc aac agt act gag tac cag gtc gtc acc cgt gtg gac		1815	
Val Asn Arg Phe Asn Ser Thr Glu Tyr Gln Val Val Thr Arg Val Asp			
445	450	455	
aag ggt ggt gcc ctg cat atc tac cac cag cga cgc cag ccc cga gtg		1863	
Lys Gly Gly Ala Leu His Ile Tyr His Gln Arg Arg Gln Pro Arg Val			
460	465	470	
cgg agt cac gcc tgt gag aat gac cag tac ggg aag cca ggt ggc tgc		1911	
Arg Ser His Ala Cys Glu Asn Asp Gln Tyr Gly Lys Pro Gly Gly Cys			
475	480	485	490
tcc gac atc tgc ctc ctg gcc aac agt cac aag gca agg acc tgc agg		1959	
Ser Asp Ile Cys Leu Leu Ala Asn Ser His Lys Ala Arg Thr Cys Arg			
495	500	505	
tgc agg tct ggc ttc agc ctg gga agt gat ggg aag tct tgt aag aaa		2007	
Cys Arg Ser Gly Phe Ser Leu Gly Ser Asp Gly Lys Ser Cys Lys Lys			
510	515	520	
cct gaa cat gag ctg ttc ctc gtg tat ggc aag ggc cga cca ggc atc		2055	
Pro Glu His Glu Leu Phe Leu Val Tyr Gly Lys Gly Arg Pro Gly Ile			
525	530	535	

att aga ggc atg gac atg ggg gcc aag gtc cca gat gag cac atg atc Ile Arg Gly Met Asp Met Gly Ala Lys Val Pro Asp Glu His Met Ile 540	545	550	2103	
ccc atc gag aac ctt atg aat cca cgc gct ctg gac ttc cac gcc gag Pro Ile Glu Asn Leu Met Asn Pro Arg Ala Leu Asp Phe His Ala Glu 555	560	565	570	2151
acc ggc ttc atc tac ttt gct gac acc acc agc tac ctc att ggc cgc Thr Gly Phe Ile Tyr Phe Ala Asp Thr Thr Ser Tyr Leu Ile Gly Arg 575	580	585	2199	
cag aaa att gat ggc acg gag aga gag act atc ctg aag gat ggc atc Gln Lys Ile Asp Gly Thr Glu Arg Glu Thr Ile Leu Lys Asp Gly Ile 590	595	600	2247	
cac aat gtg gag ggc gta gcc gtg gac tgg atg gga gac aat ctt tac His Asn Val Glu Gly Val Ala Val Asp Trp Met Gly Asp Asn Leu Tyr 605	610	615	2295	
tgg act gat gat ggc ccc aag aag acc att agt gtg gcc agg ctg gag Trp Thr Asp Asp Gly Pro Lys Lys Thr Ile Ser Val Ala Arg Leu Glu 620	625	630	2343	
aaa gcc gct cag acc cgg aag act cta att gag ggc aag atg aca cac Lys Ala Ala Gln Thr Arg Lys Thr Leu Ile Glu Gly Lys Met Thr His 635	640	645	650	2391
ccc agg gcc att gta gtg gat cca ctc aat ggg tgg atg tac tgg aca Pro Arg Ala Ile Val Val Asp Pro Leu Asn Gly Trp Met Tyr Trp Thr 655	660	665	2439	
gac tgg gag gag gac ccc aag gac agt cgg cga ggg cgg ctc gag agg Asp Trp Glu Glu Asp Pro Lys Asp Ser Arg Arg Gly Arg Leu Glu Arg 670	675	680	2487	
gct tgg atg gac ggc tca cac cga gat atc ttt gtc acc tcc aag aca Ala Trp Met Asp Gly Ser His Arg Asp Ile Phe Val Thr Ser Lys Thr 685	690	695	2535	
gtg ctt tgg ccc aat ggg cta agc ctg gat atc cca gcc gga cgc ctc Val Leu Trp Pro Asn Gly Leu Ser Leu Asp Ile Pro Ala Gly Arg Leu 700	705	710	2583	
tac tgg gtg gat gcc ttc tat gac cga att gag acc ata ctg ctc aat Tyr Trp Val Asp Ala Phe Tyr Asp Arg Ile Glu Thr Ile Leu Leu Asn 715	720	725	730	2631
ggc aca gac cgg aag att gta tat gag ggt cct gaa ctg aat cat gcc Gly Thr Asp Arg Lys Ile Val Tyr Glu Gly Pro Glu Leu Asn His Ala 735	740	745	2679	
tcc ggc ctg tgt cac cat ggc aac tac ctc ttt tgg acc gag tac cgg Phe Gly Leu Cys His His Gly Asn Tyr Leu Phe Trp Thr Glu Tyr Arg 750	755	760	2727	
agc ggc agc gtc tac cgc ttg gaa cgg ggc gtg gca ggc gca ccg ccc Ser Gly Ser Val Tyr Arg Leu Glu Arg Gly Val Ala Gly Ala Pro Pro 765	770	775	2775	
act gtg acc ctt ctg cgc agc gag aga ccg cct atc ttt gag atc cga			2823	

Thr	Val	Thr	Leu	Leu	Arg	Ser	Glu	Arg	Pro	Pro	Ile	Phe	Glu	Ile	Arg	
780						785					790					
atg	tac	gac	gct	cac	gag	cag	caa	gtg	ggt	acc	aac	aaa	tgc	cgg	gta	2871
Met	Tyr	Asp	Ala	His	Glu	Gln	Gln	Val	Gly	Thr	Asn	Lys	Cys	Arg	Val	
795						800					805					810
aat	aac	gga	ggc	tgc	agc	agc	ctg	tgc	ctc	gcc	acc	ccc	ggg	agc	cgc	2919
Asn	Asn	Gly	Gly	Cys	Ser	Ser	Leu	Cys	Leu	Ala	Thr	Pro	Gly	Ser	Arg	
						815			820					825		
cag	tgt	gcc	tgt	gcc	gag	gac	cag	gtg	ttg	gac	aca	gat	ggt	gtc	acc	2967
Gln	Cys	Ala	Cys	Ala	Glu	Asp	Gln	Val	Leu	Asp	Thr	Asp	Gly	Val	Thr	
						830			835					840		
tgc	ttg	gct	aat	cca	tcc	tac	gtg	ccc	cca	ccc	cag	tgc	cag	ccg	ggc	3015
Cys	Leu	Ala	Asn	Pro	Ser	Tyr	Val	Pro	Pro	Pro	Gln	Cys	Gln	Pro	Gly	
						845		850			855					
cag	ttt	gcc	tgt	gcc	aac	aac	cgc	tgc	atc	cag	gag	cgc	tgg	aag	tgt	3063
Gln	Phe	Ala	Cys	Ala	Asn	Asn	Arg	Cys	Ile	Gln	Glu	Arg	Trp	Lys	Cys	
						860		865			870					
gac	gga	gac	aac	gac	tgt	ctg	gac	aac	agc	gat	gag	gcc	cca	gca	ctg	3111
Asp	Gly	Asp	Asn	Asp	Cys	Leu	Asp	Asn	Ser	Asp	Glu	Ala	Pro	Ala	Leu	
						875		880			885				890	
tgc	cat	caa	cac	acc	tgt	ccc	tcg	gac	cga	ttc	aag	tgt	gag	aac	aac	3159
Cys	His	Gln	His	Thr	Cys	Pro	Ser	Asp	Arg	Phe	Lys	Cys	Glu	Asn	Asn	
						895			900					905		
cgg	tgt	atc	ccc	aac	cgc	tgg	ctc	tgt	gat	ggg	gat	aat	gat	tgt	ggc	3207
Arg	Cys	Ile	Pro	Asn	Arg	Trp	Leu	Cys	Asp	Gly	Asp	Asn	Asp	Cys	Gly	
						910		915			920					
aac	agc	gag	gac	gaa	tcc	aat	gcc	acg	tgc	tca	gcc	cgc	acc	tgt	cca	3255
Asn	Ser	Glu	Asp	Glu	Ser	Asn	Ala	Thr	Cys	Ser	Ala	Arg	Thr	Cys	Pro	
						925		930			935					
ccc	aac	cag	ttc	tcc	tgt	gcc	agt	ggc	cga	tgc	att	cct	atc	tca	tgg	3303
Pro	Asn	Gln	Phe	Ser	Cys	Ala	Ser	Gly	Arg	Cys	Ile	Pro	Ile	Ser	Trp	
						940		945			950					
acc	tgt	gat	ctg	gat	gat	gac	tgt	ggg	gac	cgg	tcc	gat	gag	tca	gcc	3351
Thr	Cys	Asp	Leu	Asp	Asp	Cys	Gly	Asp	Arg	Ser	Asp	Glu	Ser	Ala		
						955		960			965				970	
tca	tgc	gcc	tac	ccc	acc	tgc	ttc	ccc	ctg	act	caa	ttt	acc	tgc	aac	3399
Ser	Cys	Ala	Tyr	Pro	Thr	Cys	Phe	Pro	Leu	Thr	Gln	Phe	Thr	Cys	Asn	
						975			980			985				
aat	ggc	aga	tgt	att	aac	atc	aac	tgg	cgg	tgt	gac	aac	gac	aat	gac	3447
Asn	Gly	Arg	Cys	Ile	Asn	Ile	Asn	Trp	Arg	Cys	Asp	Asn	Asp	Asn	Asp	
						990		995			1000					
tgt	ggg	gac	aac	agc	gac	gaa	gcc	ggc	tgc	agt	cac	tcc	tgc	tcc		3492
Cys	Gly	Asp	Asn	Ser	Asp	Glu	Ala	Gly	Cys	Ser	His	Ser	Cys	Ser		
						1005		1010			1015					
agt	acc	cag	ttc	aag	tgc	aac	agt	ggc	aga	tgc	atc	ccc	gag	cac		3537
Ser	Thr	Gln	Phe	Lys	Cys	Asn	Ser	Gly	Arg	Cys	Ile	Pro	Glu	His		

1020	1025	1030	
tgg acg tgt gat ggg gac aat gat	tgt ggg gac tac agc gac gag		3582
Trp Thr Cys Asp Gly Asp Asn Asp	Cys Gly Asp Tyr Ser Asp Glu		
1035	1040	1045	
aca cac gcc aac tgt acc aac cag	gct aca aga cct cct ggt ggc		3627
Thr His Ala Asn Cys Thr Asn Gln	Ala Thr Arg Pro Pro Gly Gly		
1050	1055	1060	
tgc cac tcg gat gag ttc cag tgc	ccg cta gat ggc ctg tgc atc		3672
Cys His Ser Asp Glu Phe Gln Cys	Pro Leu Asp Gly Leu Cys Ile		
1065	1070	1075	
ccc ctg agg tgg cgc tgc gac ggg	gac acc gac tgc atg gat tcc		3717
Pro Leu Arg Trp Arg Cys Asp Gly	Asp Thr Asp Cys Met Asp Ser		
1080	1085	1090	
agc gat gag aag agc tgt gag ggc	gtg acc cat gtt tgt gac ccg		3762
Ser Asp Glu Lys Ser Cys Glu Gly	Val Thr His Val Cys Asp Pro		
1095	1100	1105	
aat gtc aag ttt ggc tgc aag gac	tcc gcc cgg tgc atc agc aag		3807
Asn Val Lys Phe Gly Cys Lys Asp	Ser Ala Arg Cys Ile Ser Lys		
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gcg tgg gtg tgt gat ggc gac agc	gac tgt gaa gat aac tcc gac		3852
Ala Trp Val Cys Asp Gly Asp Ser	Asp Cys Glu Asp Asn Ser Asp		
1125	1130	1135	
gag gag aac tgt gag gcc ctg gcc	tgc agg cca ccc tcc cat ccc		3897
Glu Glu Asn Cys Glu Ala Leu Ala	Cys Arg Pro Pro Ser His Pro		
1140	1145	1150	
tgc gcc aac aac acc tct gtc tgc	ctg cct cct gac aag ctg tgc		3942
Cys Ala Asn Asn Thr Ser Val Cys	Leu Pro Pro Asp Lys Leu Cys		
1155	1160	1165	
gac ggc aag gat gac tgt gga gac	ggc tcg gat gag ggc gag ctc		3987
Asp Gly Lys Asp Asp Cys Gly Asp	Gly Ser Asp Glu Gly Glu Leu		
1170	1175	1180	
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Cys Asp Gln Cys Ser Leu Asn Asn	Gly Gly Cys Ser His Asn Cys		
1185	1190	1195	
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Ser Val Ala Pro Gly Glu Gly Ile	Val Cys Ser Cys Pro Leu Gly		
1200	1205	1210	
atg gag ctg ggc tct gac aac cac	acc tgc cag atc cag agc tac		4122
Met Glu Leu Gly Ser Asp Asn His	Thr Cys Gln Ile Gln Ser Tyr		
1215	1220	1225	
tgt gcc aag cac ctc aaa tgc agc	cag aag tgt gac cag aac aag		4167
Cys Ala Lys His Leu Lys Cys Ser	Gln Lys Cys Asp Gln Asn Lys		
1230	1235	1240	
ttc agt gtg aag tgc tcc tgc tac	gag ggc tgg gtc ttg gag cct		4212
Phe Ser Val Lys Cys Ser Cys Tyr	Glu Gly Trp Val Leu Glu Pro		
1245	1250	1255	

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Asp	Gly	Glu	Thr	Cys	Arg	Ser	Leu	Asp	Pro	Phe	Lys	Leu	Phe	Ile	
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atc	ttc	tcc	aac	cgc	cac	gag	atc	agg	cgc	att	gac	ctt	cac	aag	4302
Ile	Phe	Ser	Asn	Arg	His	Glu	Ile	Arg	Arg	Ile	Asp	Leu	His	Lys	
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ggg	gac	tac	agc	gtc	cta	gtg	cct	ggc	ctg	cgc	aac	act	att	gcc	4347
Gly	Asp	Tyr	Ser	Val	Leu	Val	Pro	Gly	Leu	Arg	Asn	Thr	Ile	Ala	
1290							1295					1300			
ctg	gac	ttc	cac	ctc	agc	cag	agt	gcc	ctc	tac	tgg	acc	gac	gcg	4392
Leu	Asp	Phe	His	Leu	Ser	Gln	Ser	Ala	Leu	Tyr	Trp	Thr	Asp	Ala	
1305							1310					1315			
gta	gag	gac	aag	atc	tac	cgt	ggg	aaa	ctc	ctg	gac	aac	gga	gcc	4437
Val	Glu	Asp	Lys	Ile	Tyr	Arg	Gly	Lys	Leu	Leu	Asp	Asn	Gly	Ala	
1320							1325					1330			
ctg	acc	agc	ttt	gag	gtg	gtg	att	cag	tat	ggc	ttg	gcc	aca	cca	4482
Leu	Thr	Ser	Phe	Glu	Val	Val	Ile	Gln	Tyr	Gly	Leu	Ala	Thr	Pro	
1335							1340					1345			
gag	ggc	ctg	gct	gta	gat	tgg	att	gca	ggc	aac	atc	tac	tgg	gtg	4527
Glu	Gly	Leu	Ala	Val	Asp	Trp	Ile	Ala	Gly	Asn	Ile	Tyr	Trp	Val	
1350							1355					1360			
gag	agc	aac	ctg	gac	cag	atc	gaa	gtg	gcc	aag	ctg	gac	gga	acc	4572
Glu	Ser	Asn	Leu	Asp	Gln	Ile	Glu	Val	Ala	Lys	Leu	Asp	Gly	Thr	
1365							1370					1375			
ctc	cga	acc	act	ctg	ctg	gcg	ggt	gac	att	gag	cac	ccg	agg	gcc	4617
Leu	Arg	Thr	Thr	Leu	Leu	Ala	Gly	Asp	Ile	Glu	His	Pro	Arg	Ala	
1380							1385					1390			
atc	gct	ctg	gac	cct	cgg	gat	ggg	att	ctg	ttt	tgg	aca	gac	tgg	4662
Ile	Ala	Leu	Asp	Pro	Arg	Asp	Gly	Ile	Leu	Phe	Trp	Thr	Asp	Trp	
1395							1400					1405			
gat	gcc	agc	ctg	cca	cga	atc	gag	gct	gca	tcc	atg	agt	gga	gct	4707
Asp	Ala	Ser	Leu	Pro	Arg	Ile	Glu	Ala	Ala	Ser	Met	Ser	Gly	Ala	
1410							1415					1420			
ggc	cgc	cga	acc	atc	cac	cgg	gag	aca	ggc	tct	ggg	ggc	tgc	gcc	4752
Gly	Arg	Arg	Thr	Ile	His	Arg	Glu	Thr	Gly	Ser	Gly	Gly	Cys	Ala	
1425							1430					1435			
aat	ggg	ctc	acc	gtg	gat	tac	ctg	gag	aag	cgc	atc	ctc	tgg	att	4797
Asn	Gly	Leu	Thr	Val	Asp	Tyr	Leu	Glu	Lys	Arg	Ile	Leu	Trp	Ile	
1440							1445					1450			
gat	gct	agg	tca	gat	gcc	atc	tat	tca	gcc	cgg	tat	gac	ggc	tcc	4842
Asp	Ala	Arg	Ser	Asp	Ala	Ile	Tyr	Ser	Ala	Arg	Tyr	Asp	Gly	Ser	
1455							1460					1465			
ggc	cac	atg	gag	gtg	ctt	cgg	gga	cac	gag	ttc	ctg	tca	cac	cca	4887
Gly	His	Met	Glu	Val	Leu	Arg	Gly	His	Glu	Phe	Leu	Ser	His	Pro	
1470							1475					1480			

ttt gcc gtg aca ctg tac ggt ggg	gag gtg tac tgg acc	gac tgg	4932
Phe Ala Val Thr Leu Tyr Gly Gly	Glu Val Tyr Trp Thr	Asp Trp	
1485	1490	1495	
cga aca aat aca ctg gct aag gcc	aac aag tgg act ggc	cac aac	4977
Arg Thr Asn Thr Leu Ala Lys Ala	Asn Lys Trp Thr Gly	His Asn	
1500	1505	1510	
gtc acc gtg gta cag agg acc aac	acc cag ccc ttc gac	ctg cag	5022
Val Thr Val Val Gln Arg Thr Asn	Thr Gln Pro Phe Asp	Leu Gln	
1515	1520	1525	
gtg tat cac cct tcc cgg cag ccc	atg gct cca aac cca	tgt gag	5067
Val Tyr His Pro Ser Arg Gln Pro	Met Ala Pro Asn Pro	Cys Glu	
1530	1535	1540	
gcc aat ggc ggc cgg ggc ccc tgt	tcc cat ctg tgc ctc	atc aac	5112
Ala Asn Gly Gly Arg Gly Pro Cys	Ser His Leu Cys Leu	Ile Asn	
1545	1550	1555	
tac aac cgg acc gtc tcc tgg gcc	tgt ccc cac ctc atg	aag ctg	5157
Tyr Asn Arg Thr Val Ser Trp Ala	Cys Pro His Leu Met	Lys Leu	
1560	1565	1570	
cac aag gac aac acc acc tgc tat	gag ttt aag aag ttc	ctg ctg	5202
His Lys Asp Asn Thr Thr Cys Tyr	Glu Phe Lys Lys Phe	Leu Leu	
1575	1580	1585	
tac gca cgt cag atg gag atc cgg	ggc gtg gac ctg gat	gcc ccg	5247
Tyr Ala Arg Gln Met Glu Ile Arg	Gly Val Asp Leu Asp	Ala Pro	
1590	1595	1600	
tac tac aat tat atc atc tcc ttc	acg gtg cct gat atc	gac aat	5292
Tyr Tyr Asn Tyr Ile Ile Ser Phe	Thr Val Pro Asp Ile	Asp Asn	
1605	1610	1615	
gtc acg gtg ctg gac tat gat gcc	cga gag cag cga gtt	tac tgg	5337
Val Thr Val Leu Asp Tyr Asp Ala	Arg Glu Gln Arg Val	Tyr Trp	
1620	1625	1630	
tct gat gtg cgg actcaa gcc atc	aaa agg gca ttt atc	aac ggc	5382
Ser Asp Val Arg Thr Gln Ala Ile	Lys Arg Ala Phe Ile	Asn Gly	
1635	1640	1645	
act ggc gtg gag acc gtt gtc tct	gca gac ttg ccc aac	gcc cac	5427
Thr Gly Val Glu Thr Val Val Ser	Ala Asp Leu Pro Asn	Ala His	
1650	1655	1660	
ggg ctg gct gtg gac tgg gtc tcc	cga aat ctg ttt tgg	aca agt	5472
Gly Leu Ala Val Asp Trp Val Ser	Arg Asn Leu Phe Trp	Thr Ser	
1665	1670	1675	
tac gac acc aac aag aag cag att	aac gtg gcc cgg ctg	gac ggc	5517
Tyr Asp Thr Asn Lys Lys Gln Ile	Asn Val Ala Arg Leu	Asp Gly	
1680	1685	1690	
tcc ttc aag aat gcg gtg gtg cag	ggc ctg gag cag ccc	cac ggc	5562
Ser Phe Lys Asn Ala Val Val Gln	Gly Leu Glu Gln Pro	His Gly	
1695	1700	1705	
ctg gtc gtc cac ccg ctt cgt ggc	aag ctc tac tgg act	gat ggg	5607

Leu	Val	Val	His	Pro	Leu	Arg	Gly	Lys	Leu	Tyr	Trp	Thr	Asp	Gly	
								1710			1715				1720
gac	aac	atc	agc	atg	gcc	aac	atg	gat	ggg	agc	aac	cac	act	ctg	5652
Asp	Asn	Ile	Ser	Met	Ala	Asn	Met	Asp	Gly	Ser	Asn	His	Thr	Leu	
								1725			1730				1735
ctc	tcc	agt	ggc	cag	aag	ggc	cct	gtg	ggg	ttg	gcc	att	gac	tcc	5697
Leu	Phe	Ser	Gly	Gln	Lys	Gly	Pro	Val	Gly	Leu	Ala	Ile	Asp	Phe	
								1740			1745				1750
cct	gag	agc	aaa	ctc	tac	tgg	atc	agc	tct	ggg	aac	cac	aca	atc	5742
Pro	Glu	Ser	Lys	Leu	Tyr	Trp	Ile	Ser	Ser	Gly	Asn	His	Thr	Ile	
								1755			1760				1765
aac	cgt	tgc	aat	ctg	gat	ggg	agc	gag	ctg	gag	gtc	atc	gac	acc	5787
Asn	Arg	Cys	Asn	Leu	Asp	Gly	Ser	Glu	Leu	Glu	Val	Ile	Asp	Thr	
								1770			1775				1780
atg	cgg	agc	cag	ctg	ggc	aag	gcc	act	gcc	ctg	gcc	atc	atg	ggg	5832
Met	Arg	Ser	Gln	Leu	Gly	Lys	Ala	Thr	Ala	Leu	Ala	Ile	Met	Gly	
								1785			1790				1795
gac	aag	ctg	tgg	tgg	gca	gat	cag	gtg	tca	gag	aag	atg	ggc	acg	5877
Asp	Lys	Leu	Trp	Trp	Ala	Asp	Gln	Val	Ser	Glu	Lys	Met	Gly	Thr	
								1800			1805				1810
tgc	aac	aaa	gcc	gat	ggc	tct	ggg	tcc	gtg	gtg	ctg	cgg	aac	agt	5922
Cys	Asn	Lys	Ala	Asp	Gly	Ser	Gly	Ser	Val	Val	Leu	Arg	Asn	Ser	
								1815			1820				1825
acc	acg	ttg	gtt	atg	cac	atg	aag	gtg	tat	gac	gag	agc	atc	cag	5967
Thr	Thr	Leu	Val	Met	His	Met	Lys	Val	Tyr	Asp	Glu	Ser	Ile	Gln	
								1830			1835				1840
cta	gag	cat	gag	ggc	acc	aac	ccc	tgc	agt	gtc	aac	aac	gga	gac	6012
Leu	Glu	His	Glu	Gly	Thr	Asn	Pro	Cys	Ser	Val	Asn	Asn	Gly	Asp	
								1845			1850				1855
tgt	tcc	cag	ctc	tgc	ctg	cca	aca	tca	gag	acg	act	cgc	tcc	tgt	6057
Cys	Ser	Gln	Leu	Cys	Leu	Pro	Thr	Ser	Glu	Thr	Thr	Arg	Ser	Cys	
								1860			1865				1870
atg	tgt	aca	gcc	ggt	tac	agc	ctc	cgg	agc	gga	cag	cag	gcc	tgt	6102
Met	Cys	Thr	Ala	Gly	Tyr	Ser	Leu	Arg	Ser	Gly	Gln	Gln	Ala	Cys	
								1875			1880				1885
gag	ggt	gtg	ggc	tct	ttt	ctc	ctg	tac	tct	gta	cat	gag	gga	att	6147
Glu	Gly	Val	Gly	Ser	Phe	Leu	Leu	Tyr	Ser	Val	His	Glu	Gly	Ile	
								1890			1895				1900
cgg	ggg	att	cca	cta	gat	ccc	aat	gac	aag	tcg	gat	gcc	ctg	gtc	6192
Arg	Gly	Ile	Pro	Leu	Asp	Pro	Asn	Asp	Lys	Ser	Asp	Ala	Leu	Val	
								1905			1910				1915
cca	gtg	tcc	gga	act	tca	ctg	gct	gtc	gga	atc	gac	ttc	cat	gcc	6237
Pro	Val	Ser	Gly	Thr	Ser	Leu	Ala	Val	Gly	Ile	Asp	Phe	His	Ala	
								1920			1925				1930
gaa	aat	gac	act	att	tat	tgg	gtg	gat	atg	ggc	cta	agc	acc	atc	6282
Glu	Asn	Asp	Thr	Ile	Tyr	Trp	Val	Asp	Met	Gly	Leu	Ser	Thr	Ile	

1935	1940	1945	
agc agg gcc aag cgt gac cag aca	tgg cga gag gat gtg	gtg acc	6327
Ser Arg Ala Lys Arg Asp Gln Thr	Trp Arg Glu Asp Val	Val Val Thr	
1950	1955	1960	
aac ggt att ggc cgt gtg gag ggc	atc gcc gtg gac tgg	atc gca	6372
Asn Gly Ile Gly Arg Val Glu Gly	Ile Ala Val Asp Trp	Ile Ala	
1965	1970	1975	
ggc aac ata tac tgg acg gac cag	ggc ttc gat gtc atc	gag gtt	6417
Gly Asn Ile Tyr Trp Thr Asp Gln	Gly Phe Asp Val Ile	Glu Val	
1980	1985	1990	
gcc cgg ctc aat ggc tct ttt cgt	tat gtg gtc att tcc	cag ggt	6462
Ala Arg Leu Asn Gly Ser Phe Arg	Tyr Val Val Ile Ser	Gln Gly	
1995	2000	2005	
ctg gac aag cct cgg gcc atc act	gtc cac cca gag aag	ggg tac	6507
Leu Asp Lys Pro Arg Ala Ile Thr	Val His Pro Glu Lys	Gly Tyr	
2010	2015	2020	
ttg ttc tgg acc gag tgg ggt cat	tac cca cgt att gag	cgg tct	6552
Leu Phe Trp Thr Glu Trp Gly His	Tyr Pro Arg Ile Glu	Arg Ser	
2025	2030	2035	
cgc ctt gat ggc aca gag aga gtg	gtg ttg gtt aat gtc	agc atc	6597
Arg Leu Asp Gly Thr Glu Arg Val	Val Leu Val Asn Val	Ser Ile	
2040	2045	2050	
agc tgg ccc aat ggc atc tca gta	gac tat cag ggc ggc	aag ctc	6642
Ser Trp Pro Asn Gly Ile Ser Val	Asp Tyr Gln Gly Gly	Lys Leu	
2055	2060	2065	
tac tgg tgt gat gct cgg atg gac	aag atc gag cgc atc	gac ctg	6687
Tyr Trp Cys Asp Ala Arg Met Asp	Lys Ile Glu Arg Ile	Asp Leu	
2070	2075	2080	
gaa acg ggc gag aac cgg gag gtg	gtc ctg tcc agc aat	aac atg	6732
Glu Thr Gly Glu Asn Arg Glu Val	Val Leu Ser Ser Asn	Asn Met	
2085	2090	2095	
gat atg ttc tcc gtg tcc gtg ttt	gag gac ttc atc tac	tgg agt	6777
Asp Met Phe Ser Val Ser Val Phe	Glu Asp Phe Ile Tyr	Trp Ser	
2100	2105	2110	
gac aga act cac gcc aat ggc tcc	atc aag cgc ggc tgc	aaa gac	6822
Asp Arg Thr His Ala Asn Gly Ser	Ile Lys Arg Gly Cys	Lys Asp	
2115	2120	2125	
aat gct aca gac tcc gtg cct ctg	agg aca ggc att ggt	gtt cag	6867
Asn Ala Thr Asp Ser Val Pro Leu	Arg Thr Gly Ile Gly	Val Gln	
2130	2135	2140	
ctt aaa gac atc aag gtc ttc aac	agg gac agg cag aag	ggt acc	6912
Leu Lys Asp Ile Lys Val Phe Asn	Arg Asp Arg Gln Lys	Gly Thr	
2145	2150	2155	
aat gtg tgc gcg gta gcc aac ggc	ggg tgc cag cag ctc	tgc ttg	6957
Asn Val Cys Ala Val Ala Asn Gly	Gly Cys Gln Gln Leu	Cys Leu	
2160	2165	2170	

tat	cg	ggt	ggc	gga	cag	cga	gcc	tgt	gcc	tgt	gcc	cac	ggg	atg	7002	
Tyr	Arg	Gly	Gly	Gly	Gly	Gln	Arg	Ala	Cys	Ala	Cys	Ala	His	Gly	Met	
2175								2180					2185			
ctg	gca	gaa	gac	ggg	gcc	tca	tgc	cga	gag	tac	gct	ggc	tac	ctg	7047	
Leu	Ala	Glu	Asp	Gly	Ala	Ser	Cys	Arg	Glu	Tyr	Ala	Gly	Tyr	Leu		
2190							2195					2200				
ctc	tac	tca	gag	cg	acc	atc	ctc	aag	agc	atc	cac	ctg	tcg	gat	7092	
Leu	Tyr	Ser	Glu	Arg	Thr	Ile	Leu	Lys	Ser	Ile	His	Leu	Ser	Asp		
2205							2210					2215				
gag	cgt	aac	ctc	aa	gca	ccg	gtg	cag	ccc	ttt	gaa	gac	ccc	gag	7137	
Glu	Arg	Asn	Leu	Asn	Ala	Pro	Val	Gln	Pro	Phe	Glu	Asp	Pro	Glu		
2220							2225					2230				
cac	atg	aaa	aat	gtc	atc	gcc	ctg	gcc	ttt	gac	tac	cga	gca	ggc	7182	
His	Met	Lys	Asn	Val	Ile	Ala	Leu	Ala	Phe	Asp	Tyr	Arg	Ala	Gly		
2235							2240					2245				
acc	tcc	ccg	ggg	acc	cct	aa	cgc	atc	ttc	ttc	agt	gac	atc	cac	7227	
Thr	Ser	Pro	Gly	Thr	Pro	Asn	Arg	Ile	Phe	Phe	Ser	Asp	Ile	His		
2250							2255					2260				
ttt	ggg	aa	atc	cag	cag	atc	aa	gac	gat	ggc	tcg	ggc	agg	acc	7272	
Phe	Gly	Asn	Ile	Gln	Gln	Ile	Asn	Asp	Asp	Gly	Ser	Gly	Arg	Thr		
2265							2270					2275				
acc	atc	gt	gaa	aa	at	gt	ggc	tct	gt	gaa	ggc	ctg	gcc	tat	cac	7317
Thr	Ile	Val	Glu	Asn	Val	Gly	Ser	Val	Glu	Gly	Leu	Ala	Tyr	His		
2280							2285					2290				
cgt	ggc	tgg	gac	aca	ctg	tac	tgg	aca	agc	tac	acc	aca	tcc	acc	7362	
Arg	Gly	Trp	Asp	Thr	Leu	Tyr	Trp	Thr	Ser	Tyr	Thr	Thr	Ser	Thr		
2295							2300					2305				
atc	acc	cgc	cac	acc	gt	gac	cag	act	cgc	cca	ggg	gcc	ttc	gag	7407	
Ile	Thr	Arg	His	Thr	Val	Asp	Gln	Thr	Arg	Pro	Gly	Ala	Phe	Glu		
2310							2315					2320				
agg	gag	aca	gtc	atc	acc	atg	tcc	gga	gac	gac	cac	ccg	aga	gcc	7452	
Arg	Glu	Thr	Val	Ile	Thr	Met	Ser	Gly	Asp	Asp	His	Pro	Arg	Ala		
2325							2330					2335				
ttt	gt	ctg	gat	gag	tgc	cag	aa	ctg	atg	ttc	tgg	acc	aat	tgg	7497	
Phe	Val	Leu	Asp	Glu	Cys	Gln	Asn	Leu	Met	Phe	Trp	Thr	Asn	Trp		
2340							2345					2350				
aac	gag	ctc	cat	cca	agc	atc	atg	cgg	gca	gcc	cta	tcc	gga	gcc	7542	
Asn	Glu	Leu	His	Pro	Ser	Ile	Met	Arg	Ala	Ala	Leu	Ser	Gly	Ala		
2355							2360					2365				
aac	gtc	ctg	acc	ctc	att	gag	aag	gac	atc	cgc	acg	ccc	aat	ggg	7587	
Asn	Val	Leu	Thr	Leu	Ile	Glu	Lys	Asp	Ile	Arg	Thr	Pro	Asn	Gly		
2370							2375					2380				
ttg	gcc	atc	gac	cac	cg	g	gag	aag	ctg	tac	ttc	tcg	gat	gcc	7632	
Leu	Ala	Ile	Asp	His	Arg	Ala	Glu	Lys	Leu	Tyr	Phe	Ser	Asp	Ala		
2385							2390					2395				

acc ttg gac	aag atc gag cgc tgc	gag tac gac ggc tcc	cac cgc	7677
Thr Leu Asp	Lys Ile Glu Arg Cys	Glu Tyr Asp Gly Ser	His Arg	
2400	2405	2410		
tat gtg atc	cta aag tcg gag ccc	gtc cac ccc ttt ggg	ttg gcg	7722
Tyr Val Ile	Leu Lys Ser Glu Pro	Val His Pro Phe Gly	Leu Ala	
2415	2420	2425		
gtg tac gga	gag cac att ttc tgg	act gac tgg gtg cg	cg gct	7767
Val Tyr Gly	Glu His Ile Phe Trp	Thr Asp Trp Val Arg	Arg Ala	
2430	2435	2440		
gtg cag cga	gcc aac aag tat gtg	ggc agc gac atg aag	ctg ctt	7812
Val Gln Arg	Ala Asn Lys Tyr Val	Gly Ser Asp Met Lys	Leu Leu	
2445	2450	2455		
cg gtg gac	att ccc cag caa ccc	atg ggc atc atc gcc	gtg gcc	7857
Arg Val Asp	Ile Pro Gln Gln Pro	Met Gly Ile Ile Ala	Val Ala	
2460	2465	2470		
aat gac acc	aac agc tgt gaa ctc	tcc ccc tgc cgt atc	aac aat	7902
Asn Asp Thr	Asn Ser Cys Glu Leu	Ser Pro Cys Arg Ile	Asn Asn	
2475	2480	2485		
gga ggc tgc	cag gat ctg tgt ctg	ctc acc cac caa ggc	cac gtc	7947
Gly Gly Cys	Gln Asp Leu Cys Leu	Leu Thr His Gln Gly	His Val	
2490	2495	2500		
aac tgt tcc	tgt cga ggg ggc cg	atc ctc cag gag gac	ttc acc	7992
Asn Cys Ser	Cys Arg Gly Gly Arg	Ile Leu Gln Glu Asp	Phe Thr	
2505	2510	2515		
tgc cgg gct	gtg aac tcc tct tgt	cg gca caa gat gag	ttt gag	8037
Cys Arg Ala	Val Asn Ser Ser Cys	Arg Ala Gln Asp Glu	Phe Glu	
2520	2525	2530		
tgt gcc aat	ggg gaa tgt atc agc	ttc agc ctc acc tgt	gat ggc	8082
Cys Ala Asn	Gly Glu Cys Ile Ser	Phe Ser Leu Thr Cys	Asp Gly	
2535	2540	2545		
gtc tcc cac	tgc aag gac aag tcc	gat gag aag ccc tcc	tac tgc	8127
Val Ser His	Cys Lys Asp Lys Ser	Asp Glu Lys Pro Ser	Tyr Cys	
2550	2555	2560		
aac tca cgc	cgc tgc aag aag act	ttc cgc cag tgt aac	aat ggc	8172
Asn Ser Arg	Arg Cys Lys Lys Thr	Phe Arg Gln Cys Asn	Asn Gly	
2565	2570	2575		
cgc tgt gta	tcc aac atg ctg tgg	tgc aat ggg gtg gat	tac tgt	8217
Arg Cys Val	Ser Asn Met Leu Trp	Cys Asn Gly Val Asp	Tyr Cys	
2580	2585	2590		
ggg gat ggc	tct gat gag ata cct	tgc aac aag act gcc	tgt ggt	8262
Gly Asp Gly	Ser Asp Glu Ile Pro	Cys Asn Lys Thr Ala	Cys Gly	
2595	2600	2605		
gtg ggt gag	ttc cgc tgc cg gat	ggg tcc tgc atc ggg	aac tcc	8307
Val Gly Glu	Phe Arg Cys Arg Asp	Gly Ser Cys Ile Gly	Asn Ser	
2610	2615	2620		
agt cgc tgc	aac cag ttt gtg gat	tgt gag gat gcc tcg	gat gag	8352

Ser	Arg	Cys	Asn	Gln	Phe	Val	Asp	Cys	Glu	Asp	Ala	Ser	Asp	Glu	
2625							2630					2635			
atg	aat	tgc	agt	gcc	aca	gac	tgc	agc	agc	tat	ttc	cgc	ctg	ggc	8397
Met	Asn	Cys	Ser	Ala	Thr	Asp	Cys	Ser	Ser	Tyr	Phe	Arg	Leu	Gly	
2640							2645					2650			
gtg	aaa	ggt	gtc	ctc	ttc	cag	ccg	tgc	gag	cgg	aca	tcc	ctg	tgc	8442
Val	Lys	Gly	Val	Leu	Phe	Gln	Pro	Cys	Glu	Arg	Thr	Ser	Leu	Cys	
2655							2660					2665			
tac	gca	cct	agc	tgg	gtg	tgt	gat	ggc	gcc	aac	gac	tgt	gga	gac	8487
Tyr	Ala	Pro	Ser	Trp	Val	Cys	Asp	Gly	Ala	Asn	Asp	Cys	Gly	Asp	
2670							2675					2680			
tac	agc	gat	gaa	cgt	gac	tgt	cca	ggt	gtg	aag	cgc	cct	agg	tgc	8532
Tyr	Ser	Asp	Glu	Arg	Asp	Cys	Pro	Gly	Val	Lys	Arg	Pro	Arg	Cys	
2685							2690					2695			
ccg	ctc	aat	tac	ttt	gcc	tgc	ccc	agc	ggg	cgc	tgt	atc	ccc	atg	8577
Pro	Leu	Asn	Tyr	Phe	Ala	Cys	Pro	Ser	Gly	Arg	Cys	Ile	Pro	Met	
2700							2705					2710			
agc	tgg	acg	tgt	gac	aag	gag	gat	gac	tgt	gag	aac	ggc	gag	gat	8622
Ser	Trp	Thr	Cys	Asp	Lys	Glu	Asp	Asp	Cys	Glu	Asn	Gly	Glu	Asp	
2715							2720					2725			
gag	acc	cac	tgc	aac	aag	ttc	tgc	tca	gag	gca	cag	ttc	gag	tgc	8667
Glu	Thr	His	Cys	Asn	Lys	Phe	Cys	Ser	Glu	Ala	Gln	Phe	Glu	Cys	
2730							2735					2740			
cag	aac	cac	cg	tgt	atc	tcc	aag	cag	tgg	ctg	tgt	gac	ggt	agc	8712
Gln	Asn	His	Arg	Cys	Ile	Ser	Lys	Gln	Trp	Leu	Cys	Asp	Gly	Ser	
2745							2750					2755			
gat	gat	tgc	ggg	gat	ggc	tcc	gat	gag	gca	gct	cac	tgt	gaa	ggc	8757
Asp	Asp	Cys	Gly	Asp	Gly	Ser	Asp	Glu	Ala	Ala	His	Cys	Glu	Gly	
2760							2765					2770			
aag	aca	tgt	ggc	ccc	tcc	tcc	tcc	tcc	tgt	ccc	ggc	acc	cac	gtg	8802
Lys	Thr	Cys	Gly	Pro	Ser	Ser	Phe	Ser	Cys	Pro	Gly	Thr	His	Val	
2775							2780					2785			
tgt	gtc	cct	gag	cgc	tgg	ctc	tgt	gat	ggc	gac	aag	gac	tgt	acc	8847
Cys	Val	Pro	Glu	Arg	Trp	Leu	Cys	Asp	Gly	Asp	Lys	Asp	Cys	Thr	
2790							2795					2800			
gat	ggc	gcf	gat	gag	agt	gtc	act	gct	ggc	tgc	ctg	tac	aac	agc	8892
Asp	Gly	Ala	Asp	Glu	Ser	Val	Thr	Ala	Gly	Cys	Leu	Tyr	Asn	Ser	
2805							2810					2815			
acc	tgt	gat	gac	cgt	gag	ttc	atg	tgc	cag	aac	cgc	ttg	tgt	att	8937
Thr	Cys	Asp	Asp	Arg	Glu	Phe	Met	Cys	Gln	Asn	Arg	Leu	Cys	Ile	
2820							2825					2830			
ccc	aag	cat	tcc	gtg	tgc	gac	cat	gac	cgt	gac	tgt	gct	gat	ggc	8982
Pro	Lys	His	Phe	Val	Cys	Asp	His	Asp	Arg	Asp	Cys	Ala	Asp	Gly	
2835							2840					2845			
tct	gat	gaa	tcc	cct	gag	tgt	gag	tac	cca	acc	tgc	ggg	ccc	aat	9027
Ser	Asp	Glu	Ser	Pro	Glu	Cys	Glu	Tyr	Pro	Thr	Cys	Gly	Pro	Asn	

2850	2855	2860	
gaa ttc cgc tgt gcc aat ggg cgt	tgt ctg agc tcc cgt	cag tgg	9072
Glu Phe Arg Cys Ala Asn Gly Arg	Cys Leu Ser Ser Arg	Gln Trp	
2865	2870	2875	
gaa tgt gat ggg gag aat gac tgt	cac gac cac agc gat	gag gct	9117
Glu Cys Asp Gly Glu Asn Asp Cys	His Asp His Ser Asp	Glu Ala	
2880	2885	2890	
ccc aag aac cca cac tgc acc agc	cca gag cac aaa tgc	aat gcc	9162
Pro Lys Asn Pro His Cys Thr Ser	Pro Glu His Lys Cys	Asn Ala	
2895	2900	2905	
tca tca cag ttc ctg tgc agc agc	ggg cgc tgc gtg gct	gag gcg	9207
Ser Ser Gln Phe Leu Cys Ser Ser	Gly Arg Cys Val Ala	Glu Ala	
2910	2915	2920	
ttg ctc tgc aac ggc cag gac gac	tgt ggg gac ggt tca	gac gaa	9252
Leu Leu Cys Asn Gly Gln Asp Asp	Cys Gly Asp Gly Ser	Asp Glu	
2925	2930	2935	
cgc ggg tgc cat gtc aac gag tgt	ctc agc cgc aag ctc	agt ggc	9297
Arg Gly Cys His Val Asn Glu Cys	Leu Ser Arg Lys Leu	Ser Gly	
2940	2945	2950	
tgc agt cag gac tgc gag gac ctc	aag ata ggc ttt aag	tgc cgc	9342
Cys Ser Gln Asp Cys Glu Asp Leu	Lys Ile Gly Phe Lys	Cys Arg	
2955	2960	2965	
tgt cgc ccg ggc ttc cgg cta aag	gac gat ggc agg acc	tgt gcc	9387
Cys Arg Pro Gly Phe Arg Leu Lys	Asp Asp Gly Arg Thr	Cys Ala	
2970	2975	2980	
gac ctg gat gag tgc agc acc acc	ttc ccc tgc agc cag	ctc tgc	9432
Asp Leu Asp Glu Cys Ser Thr Thr	Phe Pro Cys Ser Gln	Leu Cys	
2985	2990	2995	
atc aac acc cac gga agt tac aag	tgt ctg tgt gtg gag	ggc tat	9477
Ile Asn Thr His Gly Ser Tyr Lys	Cys Leu Cys Val Glu	Gly Tyr	
3000	3005	3010	
gca ccc cgt ggc ggt gac ccc cac	agc tgc aaa gct gtg	acc gat	9522
Ala Pro Arg Gly Gly Asp Pro His	Ser Cys Lys Ala Val	Thr Asp	
3015	3020	3025	
gag gag cca ttt ctc atc ttt gcc	aac cgg tac tac ctg	cgg aag	9567
Glu Glu Pro Phe Leu Ile Phe Ala	Asn Arg Tyr Tyr Leu	Arg Lys	
3030	3035	3040	
ctc aac ctg gac ggc tcc aac tac	aca ctg ctt aag cag	ggc ctg	9612
Leu Asn Leu Asp Gly Ser Asn Tyr	Thr Leu Leu Lys Gln	Gly Leu	
3045	3050	3055	
aac aat gcg gtc gcc ttg gca ttt	gac tac cga gag cag	atg atc	9657
Asn Asn Ala Val Ala Leu Ala Phe	Asp Tyr Arg Glu Gln	Met Ile	
3060	3065	3070	
tac tgg acg ggc gtg acc acc cag	ggc agc atg att cgc	agg atg	9702
Tyr Trp Thr Gly Val Thr Gln	Gly Ser Met Ile Arg	Arg Met	
3075	3080	3085	

3090	3095	3100	9747
3105	3110	3115	9792
3120	3125	3130	9837
3135	3140	3145	9882
3150	3155	3160	9927
3165	3170	3175	9972
3180	3185	3190	10017
3195	3200	3205	10062
3210	3215	3220	10107
3225	3230	3235	10152
3240	3245	3250	10197
3255	3260	3265	10242
3270	3275	3280	10287
3285	3290	3295	10332
3300	3305	3310	10377

cac ctc aac ggc agc aac gtg cag gtt ctg cac cgg acg ggc ctt  
 His Leu Asn Gly Ser Asn Val Gln Val Leu His Arg Thr Gly Leu  
 3090 3095 3100 9747  
  
 agt aac cca gat ggg ctc gct gtg gac tgg gtg ggt ggc aac ctg  
 Ser Asn Pro Asp Gly Leu Ala Val Asp Trp Val Gly Gly Asn Leu  
 3105 3110 3115 9792  
  
 tac tgg tgt gac aag ggc aga gat acc att gag gtg tcc aag ctt  
 Tyr Trp Cys Asp Lys Gly Arg Asp Thr Ile Glu Val Ser Lys Leu  
 3120 3125 3130 9837  
  
 aac ggg gcc tat cgg aca gtg ctg gtc agc tct ggc ctc cgg gag  
 Asn Gly Ala Tyr Arg Thr Val Leu Val Ser Ser Gly Leu Arg Glu  
 3135 3140 3145 9882  
  
 ccc aga gct ctg gta gtg gat gta cag aat ggg tac ctg tac tgg  
 Pro Arg Ala Leu Val Val Asp Val Gln Asn Gly Tyr Leu Tyr Trp  
 3150 3155 3160 9927  
  
 aca gac tgg ggt gac cac tca ctg atc ggc cgg att ggc atg gat  
 Thr Asp Trp Gly Asp His Ser Leu Ile Gly Arg Ile Gly Met Asp  
 3165 3170 3175 9972  
  
 gga tct ggc cgc agc atc atc gtg gac act aag atc aca tgg ccc  
 Gly Ser Gly Arg Ser Ile Ile Val Asp Thr Lys Ile Thr Trp Pro  
 3180 3185 3190 10017  
  
 aat ggc ctg acc gtg gac tac gtc acg gaa cgc atc tac tgg gct  
 Asn Gly Leu Thr Val Asp Tyr Val Thr Glu Arg Ile Tyr Trp Ala  
 3195 3200 3205 10062  
  
 gac gcc cgt gag gac tac atc gag ttc gcc agc ctg gat ggc tcc  
 Asp Ala Arg Glu Asp Tyr Ile Glu Phe Ala Ser Leu Asp Gly Ser  
 3210 3215 3220 10107  
  
 aac cgt cac gtt gtg ctg agc caa gac atc cca cac atc ttt gcg  
 Asn Arg His Val Val Leu Ser Gln Asp Ile Pro His Ile Phe Ala  
 3225 3230 3235 10152  
  
 ctg acc cta ttt gaa gac tac gtc tac tgg aca gac tgg gaa acg  
 Leu Thr Leu Phe Glu Asp Tyr Val Tyr Trp Thr Asp Trp Glu Thr  
 3240 3245 3250 10197  
  
 aag tcc atc aac cgg gcc cac aag acc acg ggt gcc aac aaa aca  
 Lys Ser Ile Asn Arg Ala His Lys Thr Thr Gly Ala Asn Lys Thr  
 3255 3260 3265 10242  
  
 ctc ctc atc agc acc ctg cac cgg ccc atg gac tta cat gta ttc  
 Leu Leu Ile Ser Thr Leu His Arg Pro Met Asp Leu His Val Phe  
 3270 3275 3280 10287  
  
 cac gcc ctg cgc cag cca gat gtg ccc aat cac ccc tgc aaa gtc  
 His Ala Leu Arg Gln Pro Asp Val Pro Asn His Pro Cys Lys Val  
 3285 3290 3295 10332  
  
 aac aat ggt ggc tgc agc aac ctg tgc ctg ctg tcc cct ggg ggt  
 Asn Asn Gly Gly Cys Ser Asn Leu Cys Leu Leu Ser Pro Gly Gly  
 3300 3305 3310 10377

ggt	cac	aag	tgc	gcc	tgc	ccc	acc	aac	ttc	tat	ctg	ggt	ggc	gat	10422	
Gly	His	Lys	Cys	Ala	Cys	Pro	Thr	Asn	Phe	Tyr	Leu	Gly	Gly	Asp		
3315						3320						3325				
ggc	cgt	acc	tgt	gtg	tcc	aac	tgc	aca	gca	agc	cag	ttt	gtg	tgc	10467	
Gly	Arg	Thr	Cys	Val	Ser	Asn	Cys	Thr	Ala	Ser	Gln	Phe	Val	Cys		
3330					3335							3340				
aaa	aat	gac	aag	tgc	atc	ccc	tcc	tgg	tgg	aag	tgt	gac	acg	gag	10512	
Lys	Asn	Asp	Lys	Cys	Ile	Pro	Phe	Trp	Trp	Lys	Cys	Asp	Thr	Glu		
3345						3350						3355				
gac	gac	tgt	ggg	gat	cac	tca	gac	gag	cct	cca	gac	tgt	ccc	gag	10557	
Asp	Asp	Cys	Gly	Asp	His	Ser	Asp	Glu	Pro	Pro	Asp	Cys	Pro	Glu		
3360						3365						3370				
ttc	aag	tgc	cgc	cca	ggc	cag	ttc	cag	tgc	tcc	acc	ggc	atc	tgc	10602	
Phe	Lys	Cys	Arg	Pro	Gly	Gln	Phe	Gln	Cys	Ser	Thr	Gly	Ile	Cys		
3375						3380						3385				
acc	aac	cct	gcc	ttc	atc	tgt	gat	ggg	gac	aat	gac	tgc	caa	gac	10647	
Thr	Asn	Pro	Ala	Phe	Ile	Cys	Asp	Gly	Asp	Asn	Asp	Cys	Gln	Asp		
3390						3395						3400				
aat	agt	gac	gag	gcc	aat	tgc	gac	att	cac	gtc	tgc	ttg	ccc	agc	10692	
Asn	Ser	Asp	Glu	Ala	Asn	Cys	Asp	Ile	His	Val	Cys	Leu	Pro	Ser		
3405						3410						3415				
caa	ttc	aag	tgc	acc	aac	acc	aac	cgc	tgc	att	cct	ggc	atc	ttc	10737	
Gln	Phe	Lys	Cys	Thr	Asn	Thr	Asn	Arg	Cys	Ile	Pro	Gly	Ile	Phe		
3420						3425						3430				
cgt	tgc	aat	ggg	cag	gac	aac	tgc	ggg	gac	ggc	gag	gat	gag	cgg	10782	
Arg	Cys	Asn	Gly	Gln	Asp	Asn	Cys	Gly	Asp	Gly	Glu	Asp	Glu	Arg		
3435						3440						3445				
gat	tgc	cct	gag	gtg	acc	tgc	gcc	ccc	aac	cag	ttc	cag	tgc	tcc	10827	
Asp	Cys	Pro	Glu	Val	Thr	Cys	Ala	Pro	Asn	Gln	Phe	Gln	Cys	Ser		
3450						3455						3460				
atc	acc	aag	cgc	tgc	atc	cct	cgc	gtc	tgg	gtc	tgt	gac	agg	gat	10872	
Ile	Thr	Lys	Arg	Cys	Ile	Pro	Arg	Val	Trp	Val	Cys	Asp	Arg	Asp		
3465						3470						3475				
aat	cac	tgt	gtg	gac	ggc	agt	gat	gag	cct	gcc	aac	tgt	acc	caa	10917	
Asn	His	Cys	Val	Asp	Gly	Ser	Asp	Glu	Pro	Ala	Asn	Cys	Thr	Gln		
3480						3485						3490				
atg	acc	tgt	gga	gtg	gat	gag	ttc	cgc	tgc	aag	gat	tct	ggc	cgc	10962	
Met	Thr	Cys	Gly	Val	Asp	Glu	Phe	Arg	Cys	Lys	Asp	Ser	Gly	Arg		
3495						3500						3505				
tgc	atc	ccc	gcg	cgc	tgg	aag	tgt	gac	gga	gaa	gat	gac	tgt	ggg	11007	
Cys	Ile	Pro	Ala	Arg	Trp	Lys	Cys	Asp	Gly	Glu	Asp	Asp	Cys	Gly		
3510						3515						3520				
gat	ggt	tca	gat	gag	ccc	aag	gaa	gag	tgt	gat	gag	cgc	acc	tgt	11052	
Asp	Gly	Ser	Asp	Glu	Pro	Lys	Glu	Glu	Cys	Asp	Glu	Arg	Thr	Cys		
3525						3530						3535				
gag	cca	tac	cag	ttc	cgc	tgc	aaa	aac	aac	cgc	tgt	gtc	cca	ggc	11097	

Glu	Pro	Tyr	Gln	Phe	Arg	Cys	Lys	Asn	Asn	Arg	Cys	Val	Pro	Gly	
3540							3545					3550			
cgt	tgg	caa	tgt	gac	tac	gac	aac	gac	tgc	gga	gat	aac	tcg	gac	11142
Arg	Trp	Gln	Cys	Asp	Tyr	Asp	Asn	Asp	Cys	Gly	Asp	Asn	Ser	Asp	
3555							3560					3565			
gag	gag	agc	tgc	aca	cct	cg	ccc	tgc	tct	gag	agt	gag	ttt	ttc	11187
Glu	Glu	Ser	Cys	Thr	Pro	Arg	Pro	Cys	Ser	Glu	Ser	Glu	Phe	Phe	
3570							3575					3580			
tgt	gcc	aat	ggc	cgc	tgc	atc	gct	ggg	cgc	tgg	aag	tgt	gat	ggg	11232
Cys	Ala	Asn	Gly	Arg	Cys	Ile	Ala	Gly	Arg	Trp	Lys	Cys	Asp	Gly	
3585							3590					3595			
gac	cat	gac	tgt	gcc	gac	ggc	tca	gac	gag	aaa	gac	tgc	acc	ccc	11277
Asp	His	Asp	Cys	Ala	Asp	Gly	Ser	Asp	Glu	Lys	Asp	Cys	Thr	Pro	
3600							3605					3610			
cgc	tgt	gat	atg	gac	cag	ttc	cag	tgc	aag	agt	ggc	cac	tgc	atc	11322
Arg	Cys	Asp	Met	Asp	Gln	Phe	Gln	Cys	Lys	Ser	Gly	His	Cys	Ile	
3615							3620					3625			
ccc	ctg	cgc	tgg	ccg	tgt	gac	gcg	gat	gct	gac	tgt	atg	gac	ggc	11367
Pro	Leu	Arg	Trp	Pro	Cys	Asp	Ala	Asp	Ala	Asp	Cys	Met	Asp	Gly	
3630							3635					3640			
agt	gac	gag	gaa	gcc	tgt	ggc	act	ggg	gtg	agg	acc	tgc	cca	ttg	11412
Ser	Asp	Glu	Glu	Ala	Cys	Gly	Thr	Gly	Val	Arg	Thr	Cys	Pro	Leu	
3645							3650					3655			
gat	gag	ttt	caa	tgt	aac	aac	acc	ttg	tgc	aag	ccg	ctg	gcc	tgg	11457
Asp	Glu	Phe	Gln	Cys	Asn	Asn	Thr	Leu	Cys	Lys	Pro	Leu	Ala	Trp	
3660							3665					3670			
aag	tgt	gat	gga	gag	gac	gac	tgt	ggg	gac	aac	tca	gat	gag	aac	11502
Lys	Cys	Asp	Gly	Glu	Asp	Asp	Cys	Gly	Asp	Asn	Ser	Asp	Glu	Asn	
3675							3680					3685			
ccc	gag	gaa	tgc	gcc	cg	ttc	atc	tgc	cct	ccc	aac	cg	cct	ttc	11547
Pro	Glu	Glu	Cys	Ala	Arg	Phe	Ile	Cys	Pro	Pro	Asn	Arg	Pro	Phe	
3690							3695					3700			
cgc	tgc	aag	aat	gac	cga	gtc	tgc	ctg	tgg	att	ggg	cg	cag	tgt	11592
Arg	Cys	Lys	Asn	Asp	Arg	Val	Cys	Leu	Trp	Ile	Gly	Arg	Gln	Cys	
3705							3710					3715			
gat	ggc	gtg	gac	aac	tgt	gga	gat	ggg	act	gac	gag	gag	gac	tgt	11637
Asp	Gly	Val	Asp	Asn	Cys	Gly	Asp	Gly	Thr	Asp	Glu	Glu	Asp	Cys	
3720							3725					3730			
gag	ccc	ccc	acg	gcc	cag	aac	ccc	cac	tgc	aaa	gac	aag	aag	gag	11682
Glu	Pro	Pro	Thr	Ala	Gln	Asn	Pro	His	Cys	Lys	Asp	Lys	Lys	Glu	
3735							3740					3745			
tcc	ctg	tgc	cga	aac	cag	cg	tgt	cta	tca	tcc	tcc	ctg	cg	tgt	11727
Phe	Leu	Cys	Arg	Asn	Gln	Arg	Cys	Leu	Ser	Ser	Ser	Leu	Arg	Cys	
3750							3755					3760			
aac	atg	ttc	gat	gac	tgc	ggc	gat	ggc	tcc	gat	gaa	gaa	gat	tgc	11772
Asn	Met	Phe	Asp	Asp	Cys	Gly	Asp	Gly	Ser	Asp	Glu	Glu	Asp	Cys	

3765	3770	3775	
agc atc gac ccc aag ctg acc agc tgt gcc acc aat gcc agc atg Ser Ile Asp Pro Lys Leu Thr Ser Cys Ala Thr Asn Ala Ser Met 3780	3785	3790	11817
tgt ggg gac gaa gct cgt tgt gtg cgc act gag aaa gct gcc tac Cys Gly Asp Glu Ala Arg Cys Val Arg Thr Glu Lys Ala Ala Tyr 3795	3800	3805	11862
tgt gcc tgc cgc tcg ggc ttc cat act gtg ccg ggc cag ccc gga Cys Ala Cys Arg Ser Gly Phe His Thr Val Pro Gly Gln Pro Gly 3810	3815	3820	11907
tgc cag gac atc aac gag tgc ctg cgc ttt ggt acc tgc tct cag Cys Gln Asp Ile Asn Glu Cys Leu Arg Phe Gly Thr Cys Ser Gln 3825	3830	3835	11952
ctc tgg aac aaa ccc aag gga ggc cac ctc tgc agc tgt gcc cgc Leu Trp Asn Lys Pro Lys Gly Gly His Leu Cys Ser Cys Ala Arg 3840	3845	3850	11997
aac ttc atg aag aca cac aac acc tgc aaa gct gaa ggc tcc gag Asn Phe Met Lys Thr His Asn Thr Cys Lys Ala Glu Gly Ser Glu 3855	3860	3865	12042
tac cag gtg cta tac atc gcg gat gac aac gag atc cgc agc ttg Tyr Gln Val Leu Tyr Ile Ala Asp Asp Asn Glu Ile Arg Ser Leu 3870	3875	3880	12087
ttc ccg ggc cac ccc cac tca gcc tac gag cag aca ttc cag ggc Phe Pro Gly His Pro His Ser Ala Tyr Glu Gln Thr Phe Gln Gly 3885	3890	3895	12132
gat gag agt gtc cgc ata gat gcc atg gat gtc cat gtc aag gcc Asp Glu Ser Val Arg Ile Asp Ala Met Asp Val His Val Lys Ala 3900	3905	3910	12177
ggc cgt gtc tac tgg act aac tgg cac acg ggc aca atc tcc tac Gly Arg Val Tyr Trp Thr Asn Trp His Thr Gly Thr Ile Ser Tyr 3915	3920	3925	12222
agg agc ctg ccc cct gcc gcc cct cct acc act tcc aac cgc cac Arg Ser Leu Pro Pro Ala Ala Pro Pro Thr Thr Ser Asn Arg His 3930	3935	3940	12267
cgg agg cag atc gac cgg ggt gtc acc cac ctc aat att tca ggg Arg Arg Gln Ile Asp Arg Gly Val Thr His Leu Asn Ile Ser Gly 3945	3950	3955	12312
ctg aag atg ccg agg ggt atc gct atc gac tgg gtg gcc ggg aat Leu Lys Met Pro Arg Gly Ile Ala Ile Asp Trp Val Ala Gly Asn 3960	3965	3970	12357
gtg tac tgg acc gat tcc ggc cga gac gtg att gag gtg gcg caa Val Tyr Trp Thr Asp Ser Gly Arg Asp Val Ile Glu Val Ala Gln 3975	3980	3985	12402
atg aag ggc gag aac cgc aag acg ctc atc tcg ggc atg att gat Met Lys Gly Glu Asn Arg Lys Thr Leu Ile Ser Gly Met Ile Asp 3990	3995	4000	12447

gag ccc cat	gcc atc gtg gtg gac	cct ctg agg ggc acc	atg tac	12492
Glu Pro His	Ala Ile Val Val Asp	Pro Leu Arg Gly Thr	Met Tyr	
4005	4010	4015		
tgg tca gac	tgg ggg aac cac ccc	aag att gaa aca gca	gcg atg	12537
Trp Ser Asp	Trp Gly Asn His Pro	Lys Ile Glu Thr Ala	Ala Met	
4020	4025	4030		
gat ggc acc	ctt cgg gag act ctc	gtg caa gac aac att	cag tgg	12582
Asp Gly Thr	Leu Arg Glu Thr Leu	Val Gln Asp Asn Ile	Gln Trp	
4035	4040	4045		
cct aca ggg	ctg gct gtg gac tat	cac aat gaa cgg ctc	tac tgg	12627
Pro Thr Gly	Leu Ala Val Asp Tyr	His Asn Glu Arg Leu	Tyr Trp	
4050	4055	4060		
gca gat gcc	aag ctt tcg gtc atc	ggc agc atc cgg ctc	aac ggc	12672
Ala Asp Ala	Lys Leu Ser Val Ile	Gly Ser Ile Arg Leu	Asn Gly	
4065	4070	4075		
act gac ccc	att gtg gct gct gac	agc aaa cga ggc cta	agt cac	12717
Thr Asp Pro	Ile Val Ala Ala Asp	Ser Lys Arg Gly Leu	Ser His	
4080	4085	4090		
ccc ttc agc	atc gat gtg ttt gaa	gac tac atc tac gga	gtc act	12762
Pro Phe Ser	Ile Asp Val Phe Glu	Asp Tyr Ile Tyr Gly	Val Thr	
4095	4100	4105		
tac atc aat	aat cgt gtc ttc aag	atc cac aag ttt gga	cac agc	12807
Tyr Ile Asn	Asn Arg Val Phe Lys	Ile His Lys Phe Gly	His Ser	
4110	4115	4120		
ccc ttg tac	aac cta act ggg ggc	ctg agc cat gcc tct	gat gta	12852
Pro Leu Tyr	Asn Leu Thr Gly Gly	Leu Ser His Ala Ser	Asp Val	
4125	4130	4135		
gtc ctt tac	cat caa cac aag cag	cct gaa gtg acc aac	ccc tgt	12897
Val Leu Tyr	His Gln His Lys Gln	Pro Glu Val Thr Asn	Pro Cys	
4140	4145	4150		
gac cgc aag	aaa tgc gaa tgg ctg	tgt ctg ctg agc ccc	agc ggg	12942
Asp Arg Lys	Lys Cys Glu Trp Leu	Cys Leu Leu Ser Pro	Ser Gly	
4155	4160	4165		
cct gtc tgc	acc tgt ccc aat gga	aag agg ctg gat aat	ggc acc	12987
Pro Val Cys	Thr Cys Pro Asn Gly	Lys Arg Leu Asp Asn	Gly Thr	
4170	4175	4180		
tgt gtg cct	gtg ccc tct cca aca	ccc cct cca gat gcc	cct agg	13032
Cys Val Pro	Val Pro Ser Pro Thr	Pro Pro Pro Asp Ala	Pro Arg	
4185	4190	4195		
cct gga acc	tgc act ctg cag tgc	ttc aat ggt ggt agt	tgt ttc	13077
Pro Gly Thr	Cys Thr Leu Gln Cys	Phe Asn Gly Gly Ser	Cys Phe	
4200	4205	4210		
ctc aac gct	cg agg cag ccc aag	tgc cgt tgc cag ccc	cgt tac	13122
Leu Asn Ala	Arg Arg Gln Pro Lys	Cys Arg Cys Gln Pro	Arg Tyr	
4215	4220	4225		

aca ggc gat	aag tgt gag ctg gat	cag tgc tgg gaa tac	tgt cac	13167
Thr Gly Asp	Lys Cys Glu Leu Asp	Gln Cys Trp Glu Tyr	Cys His	
4230	4235	4240		
aac gga ggc	acc tgt gcg gct tcc	cca tct ggc atg ccc	acg tgc	13212
Asn Gly Gly	Thr Cys Ala Ala Ser	Pro Ser Gly Met Pro	Thr Cys	
4245	4250	4255		
cgc tgt ccc	act ggc ttc acg ggc	ccc aaa tgc acc gca	cag gtg	13257
Arg Cys Pro	Thr Gly Phe Thr Gly	Pro Lys Cys Thr Ala	Gln Val	
4260	4265	4270		
tgt gca ggc	tac tgc tct aac aac	agc acc tgc acc gtc	aac cag	13302
Cys Ala Gly	Tyr Cys Ser Asn Asn	Ser Thr Cys Thr Val	Asn Gln	
4275	4280	4285		
ggc aac cag	ccc cag tgc cga tgt	cta cct ggc ttc ctg	ggc gac	13347
Gly Asn Gln	Pro Gln Cys Arg Cys	Leu Pro Gly Phe Leu	Gly Asp	
4290	4295	4300		
cgt tgc cag	tac cgg cag tgc tct	ggc ttc tgt gag aac	ttt ggc	13392
Arg Cys Gln	Tyr Arg Gln Cys Ser	Gly Phe Cys Glu Asn	Phe Gly	
4305	4310	4315		
acc tgt cag	atg gct gct gat ggc	tcc cga caa tgt cgc	tgc acc	13437
Thr Cys Gln	Met Ala Ala Asp Gly	Ser Arg Gln Cys Arg	Cys Thr	
4320	4325	4330		
gtc tac ttt	gag gga cca agg tgt	gag gtg aac aag tgt	agt cgc	13482
Val Tyr Phe	Glu Gly Pro Arg Cys	Glu Val Asn Lys Cys	Ser Arg	
4335	4340	4345		
tgt ctc caa	ggc gcc tgt gtg gtc	aat aag cag acc gga	gat gtc	13527
Cys Leu Gln	Gly Ala Cys Val Val	Asn Lys Gln Thr Gly	Asp Val	
4350	4355	4360		
aca tgc aac	tgc act gat ggc cgg	gta gcc ccc agt tgt	ctc acc	13572
Thr Cys Asn	Cys Thr Asp Gly Arg	Val Ala Pro Ser Cys	Leu Thr	
4365	4370	4375		
tgc atc gat	cac tgt agc aat ggt	ggc tcc tgc acc atg	aac agc	13617
Cys Ile Asp	His Cys Ser Asn Gly	Gly Ser Cys Thr Met	Asn Ser	
4380	4385	4390		
aag atg atg	cct gag tgc cag tgc	ccg ccc cat atg aca	gga ccc	13662
Lys Met Met	Pro Glu Cys Gln Cys	Pro Pro His Met Thr	Gly Pro	
4395	4400	4405		
cgg tgc cag	gag cag gtt gtt agt	cag caa cag cct ggg	cat atg	13707
Arg Cys Gln	Glu Gln Val Val Ser	Gln Gln Gln Pro Gly	His Met	
4410	4415	4420		
gcc tcc atc	ctg atc cct ctg ctg	ctg ctt ctc ctg ctg	ctt ctg	13752
Ala Ser Ile	Leu Ile Pro Leu Leu	Leu Leu Leu Leu Leu	Leu Leu	
4425	4430	4435		
gtg gct ggc	gtg gtg ttc tgg tat	aag cgg cga gtc cga	ggg gct	13797
Val Ala Gly	Val Val Phe Trp Tyr	Lys Arg Arg Val Arg	Gly Ala	
4440	4445	4450		
aag ggc ttc	cag cac cag cgg atg	acc aat ggg gcc atg	aat gtg	13842

Lys	Gly	Phe	Gln	His	Gln	Arg	Met	Thr	Asn	Gly	Ala	Met	Asn	Val	
4455							4460					4465			
gaa	att	gga	aac	cct	acc	tac	aag	atg	tat	gaa	ggt	gga	gag	ccc	13887
Glu	Ile	Gly	Asn	Pro	Thr	Tyr	Lys	Met	Tyr	Glu	Gly	Gly	Glu	Pro	
4470							4475					4480			
gat	gat	gtc	ggg	ggc	cta	ctg	gat	gct	gat	ttt	gcc	ctt	gac	cct	13932
Asp	Asp	Val	Gly	Gly	Leu	Leu	Asp	Ala	Asp	Phe	Ala	Leu	Asp	Pro	
4485							4490					4495			
gac	aag	cct	acc	aac	tcc	acc	aac	cca	gtg	tat	gcc	acg	ctc	tac	13977
Asp	Lys	Pro	Thr	Asn	Phe	Thr	Asn	Pro	Val	Tyr	Ala	Thr	Leu	Tyr	
4500							4505					4510			
atg	ggg	ggc	cac	ggc	agc	cgc	cat	tcc	ctg	gcc	agc	acg	gac	gag	14022
Met	Gly	Gly	His	Gly	Ser	Arg	His	Ser	Leu	Ala	Ser	Thr	Asp	Glu	
4515							4520					4525			
aag	cga	gaa	ctg	ctg	ggc	cgg	gga	cct	gaa	gac	gag	ata	gga	gat	14067
Lys	Arg	Glu	Leu	Leu	Gly	Arg	Gly	Pro	Glu	Asp	Glu	Ile	Gly	Asp	
4530							4535					4540			
ccc	ttg	gca	tag	ggccctgccc	cgacggatgt	ccccagaaag	ccccctgcca								14119
Pro	Leu	Ala													
4545															
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gctccgtgtc	ccagctttcc	ttcccttggc	tctctgggt	tagttcaggg	gaggtggagt										14479
cctctgctga	ccctgtctgg	aagatttggc	tctagctgag	gaaggagtct	tttagttgag										14539
ggaagtcacc	ccaaacccca	gctcccactt	tcagggcac	ctctcagatg	gccatgctca										14599
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aaaaaaaaaa															14849

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 <211> 4545  
 <212> PRT  
 <213> Mus sp.

<400> 2

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Val Ser Gly Ala Thr Met Asp Ala Pro Lys Thr Cys Ser Pro Lys Gln  
20 25 30

Phe Ala Cys Arg Asp Gln Ile Thr Cys Ile Ser Lys Gly Trp Arg Cys  
35 40 45

Asp Gly Glu Arg Asp Cys Pro Asp Gly Ser Asp Glu Ala Pro Glu Ile  
50 55 60

Cys Pro Gln Ser Lys Ala Gln Arg Cys Pro Pro Asn Glu His Ser Cys  
65 70 75 80

Leu Gly Thr Glu Leu Cys Val Pro Met Ser Arg Leu Cys Asn Gly Ile  
85 90 95

Gln Asp Cys Met Asp Gly Ser Asp Glu Gly Ala His Cys Arg Glu Leu  
100 105 110

Arg Ala Asn Cys Ser Arg Met Gly Cys Gln His His Cys Val Pro Thr  
115 120 125

Pro Ser Gly Pro Thr Cys Tyr Cys Asn Ser Ser Phe Gln Leu Glu Ala  
130 135 140

Asp Gly Lys Thr Cys Lys Asp Phe Asp Glu Cys Ser Val Tyr Gly Thr  
145 150 155 160

Cys Ser Gln Leu Cys Thr Asn Thr Asp Gly Ser Phe Thr Cys Gly Cys  
165 170 175

Val Glu Gly Tyr Leu Leu Gln Pro Asp Asn Arg Ser Cys Lys Ala Lys  
180 185 190

Asn Glu Pro Val Asp Arg Pro Pro Val Leu Leu Ile Ala Asn Ser Gln  
195 200 205

Asn Ile Leu Ala Thr Tyr Leu Ser Gly Ala Gln Val Ser Thr Ile Thr  
210 215 220

Pro Thr Ser Thr Arg Gln Thr Thr Ala Met Asp Phe Ser Tyr Ala Asn  
225 230 235 240

Glu Thr Val Cys Trp Val His Val Gly Asp Ser Ala Ala Gln Thr Gln

245	250	255
Leu Lys Cys Ala Arg Met Pro Gly Leu Lys Gly Phe Val Asp Glu His		
260	265	270
Thr Ile Asn Ile Ser Leu Ser Leu His His Val Glu Gln Met Ala Ile		
275	280	285
Asp Trp Leu Thr Gly Asn Phe Tyr Phe Val Asp Asp Ile Asp Asp Arg		
290	295	300
Ile Phe Val Cys Asn Arg Asn Gly Asp Thr Cys Val Thr Leu Leu Asp		
305	310	315
Leu Glu Leu Tyr Asn Pro Lys Gly Ile Ala Leu Asp Pro Ala Met Gly		
325	330	335
Lys Val Phe Phe Thr Asp Tyr Gly Gln Ile Pro Lys Val Glu Arg Cys		
340	345	350
Asp Met Asp Gly Gln Asn Arg Thr Lys Leu Val Asp Ser Lys Ile Val		
355	360	365
Phe Pro His Gly Ile Thr Leu Asp Leu Val Ser Arg Leu Val Tyr Trp		
370	375	380
Ala Asp Ala Tyr Leu Asp Tyr Ile Glu Val Val Asp Tyr Glu Gly Lys		
385	390	395
Gly Arg Gln Thr Ile Ile Gln Gly Ile Leu Ile Glu His Leu Tyr Gly		
405	410	415
Leu Thr Val Phe Glu Asn Tyr Leu Tyr Ala Thr Asn Ser Asp Asn Ala		
420	425	430
Asn Thr Gln Gln Lys Thr Ser Val Ile Arg Val Asn Arg Phe Asn Ser		
435	440	445
Thr Glu Tyr Gln Val Val Thr Arg Val Asp Lys Gly Gly Ala Leu His		
450	455	460
Ile Tyr His Gln Arg Arg Gln Pro Arg Val Arg Ser His Ala Cys Glu		
465	470	475
Asn Asp Gln Tyr Gly Lys Pro Gly Gly Cys Ser Asp Ile Cys Leu Leu		
485	490	495

Ala Asn Ser His Lys Ala Arg Thr Cys Arg Cys Arg Ser Gly Phe Ser  
500 505 510

Leu Gly Ser Asp Gly Lys Ser Cys Lys Lys Pro Glu His Glu Leu Phe  
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Leu Val Tyr Gly Lys Gly Arg Pro Gly Ile Ile Arg Gly Met Asp Met  
530 535 540

Gly Ala Lys Val Pro Asp Glu His Met Ile Pro Ile Glu Asn Leu Met  
545 550 555 560

Asn Pro Arg Ala Leu Asp Phe His Ala Glu Thr Gly Phe Ile Tyr Phe  
565 570 575

Ala Asp Thr Thr Ser Tyr Leu Ile Gly Arg Gln Lys Ile Asp Gly Thr  
580 585 590

Glu Arg Glu Thr Ile Leu Lys Asp Gly Ile His Asn Val Glu Gly Val  
595 600 605

Ala Val Asp Trp Met Gly Asp Asn Leu Tyr Trp Thr Asp Asp Gly Pro  
610 615 620

Lys Lys Thr Ile Ser Val Ala Arg Leu Glu Lys Ala Ala Gln Thr Arg  
625 630 635 640

Lys Thr Leu Ile Glu Gly Lys Met Thr His Pro Arg Ala Ile Val Val  
645 650 655

Asp Pro Leu Asn Gly Trp Met Tyr Trp Thr Asp Trp Glu Glu Asp Pro  
660 665 670

Lys Asp Ser Arg Arg Gly Arg Leu Glu Arg Ala Trp Met Asp Gly Ser  
675 680 685

His Arg Asp Ile Phe Val Thr Ser Lys Thr Val Leu Trp Pro Asn Gly  
690 695 700

Leu Ser Leu Asp Ile Pro Ala Gly Arg Leu Tyr Trp Val Asp Ala Phe  
705 710 715 720

Tyr Asp Arg Ile Glu Thr Ile Leu Leu Asn Gly Thr Asp Arg Lys Ile  
725 730 735

Val Tyr Glu Gly Pro Glu Leu Asn His Ala Phe Gly Leu Cys His His  
740 745 750

Gly Asn Tyr Leu Phe Trp Thr Glu Tyr Arg Ser Gly Ser Val Tyr Arg  
755 760 765

Leu Glu Arg Gly Val Ala Gly Ala Pro Pro Thr Val Thr Leu Leu Arg  
770 775 780

Ser Glu Arg Pro Pro Ile Phe Glu Ile Arg Met Tyr Asp Ala His Glu  
785 790 795 800

Gln Gln Val Gly Thr Asn Lys Cys Arg Val Asn Asn Gly Gly Cys Ser  
805 810 815

Ser Leu Cys Leu Ala Thr Pro Gly Ser Arg Gln Cys Ala Cys Ala Glu  
820 825 830

Asp Gln Val Leu Asp Thr Asp Gly Val Thr Cys Leu Ala Asn Pro Ser  
835 840 845

Tyr Val Pro Pro Pro Gln Cys Gln Pro Gly Gln Phe Ala Cys Ala Asn  
850 855 860

Asn Arg Cys Ile Gln Glu Arg Trp Lys Cys Asp Gly Asp Asn Asp Cys  
865 870 875 880

Leu Asp Asn Ser Asp Glu Ala Pro Ala Leu Cys His Gln His Thr Cys  
885 890 895

Pro Ser Asp Arg Phe Lys Cys Glu Asn Asn Arg Cys Ile Pro Asn Arg  
900 905 910

Trp Leu Cys Asp Gly Asp Asn Asp Cys Gly Asn Ser Glu Asp Glu Ser  
915 920 925

Asn Ala Thr Cys Ser Ala Arg Thr Cys Pro Pro Asn Gln Phe Ser Cys  
930 935 940

Ala Ser Gly Arg Cys Ile Pro Ile Ser Trp Thr Cys Asp Leu Asp Asp  
945 950 955 960

Asp Cys Gly Asp Arg Ser Asp Glu Ser Ala Ser Cys Ala Tyr Pro Thr  
965 970 975

Cys Phe Pro Leu Thr Gln Phe Thr Cys Asn Asn Gly Arg Cys Ile Asn  
 980 985 990

Ile Asn Trp Arg Cys Asp Asn Asp Asn Asp Cys Gly Asp Asn Ser Asp  
 995 1000 1005

Glu Ala Gly Cys Ser His Ser Cys Ser Ser Thr Gln Phe Lys Cys  
 1010 1015 1020

Asn Ser Gly Arg Cys Ile Pro Glu His Trp Thr Cys Asp Gly Asp  
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Asn Asp Cys Gly Asp Tyr Ser Asp Glu Thr His Ala Asn Cys Thr  
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Asn Gln Ala Thr Arg Pro Pro Gly Gly Cys His Ser Asp Glu Phe  
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Gln Cys Pro Leu Asp Gly Leu Cys Ile Pro Leu Arg Trp Arg Cys  
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Asp Gly Asp Thr Asp Cys Met Asp Ser Ser Asp Glu Lys Ser Cys  
 1085 1090 1095

Glu Gly Val Thr His Val Cys Asp Pro Asn Val Lys Phe Gly Cys  
 1100 1105 1110

Lys Asp Ser Ala Arg Cys Ile Ser Lys Ala Trp Val Cys Asp Gly  
 1115 1120 1125

Asp Ser Asp Cys Glu Asp Asn Ser Asp Glu Glu Asn Cys Glu Ala  
 1130 1135 1140

Leu Ala Cys Arg Pro Pro Ser His Pro Cys Ala Asn Asn Thr Ser  
 1145 1150 1155

Val Cys Leu Pro Pro Asp Lys Leu Cys Asp Gly Lys Asp Asp Cys  
 1160 1165 1170

Gly Asp Gly Ser Asp Glu Gly Glu Leu Cys Asp Gln Cys Ser Leu  
 1175 1180 1185

Asn Asn Gly Gly Cys Ser His Asn Cys Ser Val Ala Pro Gly Glu  
 1190 1195 1200

Gly Ile Val Cys Ser Cys Pro Leu Gly Met Glu Leu Gly Ser Asp

1205	1210	1215
Asn His Thr Cys Gln Ile Gln	Ser Tyr Cys Ala Lys	His Leu Lys
1220	1225	1230
Cys Ser Gln Lys Cys Asp Gln	Asn Lys Phe Ser Val	Lys Cys Ser
1235	1240	1245
Cys Tyr Glu Gly Trp Val Leu	Glu Pro Asp Gly Glu	Thr Cys Arg
1250	1255	1260
Ser Leu Asp Pro Phe Lys Leu	Phe Ile Ile Phe Ser	Asn Arg His
1265	1270	1275
Glu Ile Arg Arg Ile Asp Leu	His Lys Gly Asp Tyr	Ser Val Leu
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Val Pro Gly Leu Arg Asn Thr	Ile Ala Leu Asp Phe	His Leu Ser
1295	1300	1305
Gln Ser Ala Leu Tyr Trp Thr	Asp Ala Val Glu Asp	Lys Ile Tyr
1310	1315	1320
Arg Gly Lys Leu Leu Asp Asn	Gly Ala Leu Thr Ser	Phe Glu Val
1325	1330	1335
Val Ile Gln Tyr Gly Leu Ala	Thr Pro Glu Gly Leu	Ala Val Asp
1340	1345	1350
Trp Ile Ala Gly Asn Ile Tyr	Trp Val Glu Ser Asn	Leu Asp Gln
1355	1360	1365
Ile Glu Val Ala Lys Leu Asp	Gly Thr Leu Arg Thr	Thr Leu Leu
1370	1375	1380
Ala Gly Asp Ile Glu His Pro	Arg Ala Ile Ala Leu	Asp Pro Arg
1385	1390	1395
Asp Gly Ile Leu Phe Trp Thr	Asp Trp Asp Ala Ser	Leu Pro Arg
1400	1405	1410
Ile Glu Ala Ala Ser Met Ser	Gly Ala Gly Arg Arg	Thr Ile His
1415	1420	1425
Arg Glu Thr Gly Ser Gly Gly	Cys Ala Asn Gly Leu	Thr Val Asp

1430	1435	1440
Tyr Leu Glu Lys Arg Ile Leu Trp Ile Asp Ala Arg Ser Asp Ala		
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Ile Tyr Ser Ala Arg Tyr Asp Gly Ser Gly His Met Glu Val Leu		
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Arg Gly His Glu Phe Leu Ser His Pro Phe Ala Val Thr Leu Tyr		
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Gly Gly Glu Val Tyr Trp Thr Asp Trp Arg Thr Asn Thr Leu Ala		
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Lys Ala Asn Lys Trp Thr Gly His Asn Val Thr Val Val Gln Arg		
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Thr Asn Thr Gln Pro Phe Asp Leu Gln Val Tyr His Pro Ser Arg		
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Gln Pro Met Ala Pro Asn Pro Cys Glu Ala Asn Gly Gly Arg Gly		
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Pro Cys Ser His Leu Cys Leu Ile Asn Tyr Asn Arg Thr Val Ser		
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Trp Ala Cys Pro His Leu Met Lys Leu His Lys Asp Asn Thr Thr		
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Cys Tyr Glu Phe Lys Lys Phe Leu Leu Tyr Ala Arg Gln Met Glu		
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Ile Arg Gly Val Asp Leu Asp Ala Pro Tyr Tyr Asn Tyr Ile Ile		
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Ser Phe Thr Val Pro Asp Ile Asp Asn Val Thr Val Leu Asp Tyr		
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Asp Ala Arg Glu Gln Arg Val Tyr Trp Ser Asp Val Arg Thr Gln		
1625	1630	1635
Ala Ile Lys Arg Ala Phe Ile Asn Gly Thr Gly Val Glu Thr Val		
1640	1645	1650
Val Ser Ala Asp Leu Pro Asn Ala His Gly Leu Ala Val Asp Trp		
1655	1660	1665

Val Ser Arg Asn Leu Phe Trp Thr Ser Tyr Asp Thr Asn Lys Lys  
1670 1675 1680

Gln Ile Asn Val Ala Arg Leu Asp Gly Ser Phe Lys Asn Ala Val  
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Val Gln Gly Leu Glu Gln Pro His Gly Leu Val Val His Pro Leu  
1700 1705 1710

Arg Gly Lys Leu Tyr Trp Thr Asp Gly Asp Asn Ile Ser Met Ala  
1715 1720 1725

Asn Met Asp Gly Ser Asn His Thr Leu Leu Phe Ser Gly Gln Lys  
1730 1735 1740

Gly Pro Val Gly Leu Ala Ile Asp Phe Pro Glu Ser Lys Leu Tyr  
1745 1750 1755

Trp Ile Ser Ser Gly Asn His Thr Ile Asn Arg Cys Asn Leu Asp  
1760 1765 1770

Gly Ser Glu Leu Glu Val Ile Asp Thr Met Arg Ser Gln Leu Gly  
1775 1780 1785

Lys Ala Thr Ala Leu Ala Ile Met Gly Asp Lys Leu Trp Trp Ala  
1790 1795 1800

Asp Gln Val Ser Glu Lys Met Gly Thr Cys Asn Lys Ala Asp Gly  
1805 1810 1815

Ser Gly Ser Val Val Leu Arg Asn Ser Thr Thr Leu Val Met His  
1820 1825 1830

Met Lys Val Tyr Asp Glu Ser Ile Gln Leu Glu His Glu Gly Thr  
1835 1840 1845

Asn Pro Cys Ser Val Asn Asn Gly Asp Cys Ser Gln Leu Cys Leu  
1850 1855 1860

Pro Thr Ser Glu Thr Thr Arg Ser Cys Met Cys Thr Ala Gly Tyr  
1865 1870 1875

Ser Leu Arg Ser Gly Gln Gln Ala Cys Glu Gly Val Gly Ser Phe  
1880 1885 1890

Leu Leu Tyr Ser Val His Glu Gly Ile Arg Gly Ile Pro Leu Asp  
1895 1900 1905

Pro Asn Asp Lys Ser Asp Ala Leu Val Pro Val Ser Gly Thr Ser  
1910 1915 1920

Leu Ala Val Gly Ile Asp Phe His Ala Glu Asn Asp Thr Ile Tyr  
1925 1930 1935

Trp Val Asp Met Gly Leu Ser Thr Ile Ser Arg Ala Lys Arg Asp  
1940 1945 1950

Gln Thr Trp Arg Glu Asp Val Val Thr Asn Gly Ile Gly Arg Val  
1955 1960 1965

Glu Gly Ile Ala Val Asp Trp Ile Ala Gly Asn Ile Tyr Trp Thr  
1970 1975 1980

Asp Gln Gly Phe Asp Val Ile Glu Val Ala Arg Leu Asn Gly Ser  
1985 1990 1995

Phe Arg Tyr Val Val Ile Ser Gln Gly Leu Asp Lys Pro Arg Ala  
2000 2005 2010

Ile Thr Val His Pro Glu Lys Gly Tyr Leu Phe Trp Thr Glu Trp  
2015 2020 2025

Gly His Tyr Pro Arg Ile Glu Arg Ser Arg Leu Asp Gly Thr Glu  
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Arg Val Val Leu Val Asn Val Ser Ile Ser Trp Pro Asn Gly Ile  
2045 2050 2055

Ser Val Asp Tyr Gln Gly Gly Lys Leu Tyr Trp Cys Asp Ala Arg  
2060 2065 2070

Met Asp Lys Ile Glu Arg Ile Asp Leu Glu Thr Gly Glu Asn Arg  
2075 2080 2085

Glu Val Val Leu Ser Ser Asn Asn Met Asp Met Phe Ser Val Ser  
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Val Phe Glu Asp Phe Ile Tyr Trp Ser Asp Arg Thr His Ala Asn  
2105 2110 2115

Gly Ser Ile Lys Arg Gly Cys Lys Asp Asn Ala Thr Asp Ser Val  
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Pro Leu Arg Thr Gly Ile Gly Val Gln Leu Lys Asp Ile Lys Val  
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Phe Asn Arg Asp Arg Gln Lys Gly Thr Asn Val Cys Ala Val Ala  
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Asn Gly Gly Cys Gln Gln Leu Cys Leu Tyr Arg Gly Gly Gly Gln  
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Arg Ala Cys Ala Cys Ala His Gly Met Leu Ala Glu Asp Gly Ala  
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Ser Cys Arg Glu Tyr Ala Gly Tyr Leu Leu Tyr Ser Glu Arg Thr  
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Ile Leu Lys Ser Ile His Leu Ser Asp Glu Arg Asn Leu Asn Ala  
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Pro Val Gln Pro Phe Glu Asp Pro Glu His Met Lys Asn Val Ile  
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Ala Leu Ala Phe Asp Tyr Arg Ala Gly Thr Ser Pro Gly Thr Pro  
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Asn Arg Ile Phe Phe Ser Asp Ile His Phe Gly Asn Ile Gln Gln  
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Ile Asn Asp Asp Gly Ser Gly Arg Thr Thr Ile Val Glu Asn Val  
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Gly Ser Val Glu Gly Leu Ala Tyr His Arg Gly Trp Asp Thr Leu  
2285 2290 2295

Tyr Trp Thr Ser Tyr Thr Thr Ser Thr Ile Thr Arg His Thr Val  
2300 2305 2310

Asp Gln Thr Arg Pro Gly Ala Phe Glu Arg Glu Thr Val Ile Thr  
2315 2320 2325

Met Ser Gly Asp Asp His Pro Arg Ala Phe Val Leu Asp Glu Cys  
2330 2335 2340

Gln Asn Leu Met Phe Trp Thr Asn Trp Asn Glu Leu His Pro Ser

2345	2350	2355
Ile Met Arg Ala Ala Leu Ser Gly Ala Asn Val Leu Thr Leu Ile		
2360	2365	2370
Glu Lys Asp Ile Arg Thr Pro Asn Gly Leu Ala Ile Asp His Arg		
2375	2380	2385
Ala Glu Lys Leu Tyr Phe Ser Asp Ala Thr Leu Asp Lys Ile Glu		
2390	2395	2400
Arg Cys Glu Tyr Asp Gly Ser His Arg Tyr Val Ile Leu Lys Ser		
2405	2410	2415
Glu Pro Val His Pro Phe Gly Leu Ala Val Tyr Gly Glu His Ile		
2420	2425	2430
Phe Trp Thr Asp Trp Val Arg Arg Ala Val Gln Arg Ala Asn Lys		
2435	2440	2445
Tyr Val Gly Ser Asp Met Lys Leu Leu Arg Val Asp Ile Pro Gln		
2450	2455	2460
Gln Pro Met Gly Ile Ile Ala Val Ala Asn Asp Thr Asn Ser Cys		
2465	2470	2475
Glu Leu Ser Pro Cys Arg Ile Asn Asn Gly Gly Cys Gln Asp Leu		
2480	2485	2490
Cys Leu Leu Thr His Gln Gly His Val Asn Cys Ser Cys Arg Gly		
2495	2500	2505
Gly Arg Ile Leu Gln Glu Asp Phe Thr Cys Arg Ala Val Asn Ser		
2510	2515	2520
Ser Cys Arg Ala Gln Asp Glu Phe Glu Cys Ala Asn Gly Glu Cys		
2525	2530	2535
Ile Ser Phe Ser Leu Thr Cys Asp Gly Val Ser His Cys Lys Asp		
2540	2545	2550
Lys Ser Asp Glu Lys Pro Ser Tyr Cys Asn Ser Arg Arg Cys Lys		
2555	2560	2565
Lys Thr Phe Arg Gln Cys Asn Asn Gly Arg Cys Val Ser Asn Met		
2570	2575	2580

Leu Trp Cys Asn Gly Val Asp Tyr Cys Gly Asp Gly Ser Asp Glu  
2585 2590 2595

Ile Pro Cys Asn Lys Thr Ala Cys Gly Val Gly Glu Phe Arg Cys  
2600 2605 2610

Arg Asp Gly Ser Cys Ile Gly Asn Ser Ser Arg Cys Asn Gln Phe  
2615 2620 2625

Val Asp Cys Glu Asp Ala Ser Asp Glu Met Asn Cys Ser Ala Thr  
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Asp Cys Ser Ser Tyr Phe Arg Leu Gly Val Lys Gly Val Leu Phe  
2645 2650 2655

Gln Pro Cys Glu Arg Thr Ser Leu Cys Tyr Ala Pro Ser Trp Val  
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Cys Asp Gly Ala Asn Asp Cys Gly Asp Tyr Ser Asp Glu Arg Asp  
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Cys Pro Gly Val Lys Arg Pro Arg Cys Pro Leu Asn Tyr Phe Ala  
2690 2695 2700

Cys Pro Ser Gly Arg Cys Ile Pro Met Ser Trp Thr Cys Asp Lys  
2705 2710 2715

Glu Asp Asp Cys Glu Asn Gly Glu Asp Glu Thr His Cys Asn Lys  
2720 2725 2730

Phe Cys Ser Glu Ala Gln Phe Glu Cys Gln Asn His Arg Cys Ile  
2735 2740 2745

Ser Lys Gln Trp Leu Cys Asp Gly Ser Asp Asp Cys Gly Asp Gly  
2750 2755 2760

Ser Asp Glu Ala Ala His Cys Glu Gly Lys Thr Cys Gly Pro Ser  
2765 2770 2775

Ser Phe Ser Cys Pro Gly Thr His Val Cys Val Pro Glu Arg Trp  
2780 2785 2790

Leu Cys Asp Gly Asp Lys Asp Cys Thr Asp Gly Ala Asp Glu Ser  
2795 2800 2805

Val Thr Ala Gly Cys Leu Tyr Asn Ser Thr Cys Asp Asp Arg Glu  
2810 2815 2820

Phe Met Cys Gln Asn Arg Leu Cys Ile Pro Lys His Phe Val Cys  
2825 2830 2835

Asp His Asp Arg Asp Cys Ala Asp Gly Ser Asp Glu Ser Pro Glu  
2840 2845 2850

Cys Glu Tyr Pro Thr Cys Gly Pro Asn Glu Phe Arg Cys Ala Asn  
2855 2860 2865

Gly Arg Cys Leu Ser Ser Arg Gln Trp Glu Cys Asp Gly Glu Asn  
2870 2875 2880

Asp Cys His Asp His Ser Asp Glu Ala Pro Lys Asn Pro His Cys  
2885 2890 2895

Thr Ser Pro Glu His Lys Cys Asn Ala Ser Ser Gln Phe Leu Cys  
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Ser Ser Gly Arg Cys Val Ala Glu Ala Leu Leu Cys Asn Gly Gln  
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Asp Asp Cys Gly Asp Gly Ser Asp Glu Arg Gly Cys His Val Asn  
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Glu Cys Leu Ser Arg Lys Leu Ser Gly Cys Ser Gln Asp Cys Glu  
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Asp Leu Lys Ile Gly Phe Lys Cys Arg Cys Arg Pro Gly Phe Arg  
2960 2965 2970

Leu Lys Asp Asp Gly Arg Thr Cys Ala Asp Leu Asp Glu Cys Ser  
2975 2980 2985

Thr Thr Phe Pro Cys Ser Gln Leu Cys Ile Asn Thr His Gly Ser  
2990 2995 3000

Tyr Lys Cys Leu Cys Val Glu Gly Tyr Ala Pro Arg Gly Gly Asp  
3005 3010 3015

Pro His Ser Cys Lys Ala Val Thr Asp Glu Glu Pro Phe Leu Ile  
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Phe Ala Asn Arg Tyr Tyr Leu Arg Lys Leu Asn Leu Asp Gly Ser  
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Asn Tyr Thr Leu Leu Lys Gln Gly Leu Asn Asn Ala Val Ala Leu  
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Ala Phe Asp Tyr Arg Glu Gln Met Ile Tyr Trp Thr Gly Val Thr  
3065 3070 3075

Thr Gln Gly Ser Met Ile Arg Arg Met His Leu Asn Gly Ser Asn  
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Val Gln Val Leu His Arg Thr Gly Leu Ser Asn Pro Asp Gly Leu  
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Ala Val Asp Trp Val Gly Gly Asn Leu Tyr Trp Cys Asp Lys Gly  
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Arg Asp Thr Ile Glu Val Ser Lys Leu Asn Gly Ala Tyr Arg Thr  
3125 3130 3135

Val Leu Val Ser Ser Gly Leu Arg Glu Pro Arg Ala Leu Val Val  
3140 3145 3150

Asp Val Gln Asn Gly Tyr Leu Tyr Trp Thr Asp Trp Gly Asp His  
3155 3160 3165

Ser Leu Ile Gly Arg Ile Gly Met Asp Gly Ser Gly Arg Ser Ile  
3170 3175 3180

Ile Val Asp Thr Lys Ile Thr Trp Pro Asn Gly Leu Thr Val Asp  
3185 3190 3195

Tyr Val Thr Glu Arg Ile Tyr Trp Ala Asp Ala Arg Glu Asp Tyr  
3200 3205 3210

Ile Glu Phe Ala Ser Leu Asp Gly Ser Asn Arg His Val Val Leu  
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Ser Gln Asp Ile Pro His Ile Phe Ala Leu Thr Leu Phe Glu Asp  
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Tyr Val Tyr Trp Thr Asp Trp Glu Thr Lys Ser Ile Asn Arg Ala  
3245 3250 3255

His Lys Thr Thr Gly Ala Asn Lys Thr Leu Leu Ile Ser Thr Leu

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His Arg Pro Met Asp Leu His Val Phe His Ala Leu Arg Gln Pro		
3275	3280	3285
Asp Val Pro Asn His Pro Cys Lys Val Asn Asn Gly Gly Cys Ser		
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Asn Leu Cys Leu Leu Ser Pro Gly Gly Gly His Lys Cys Ala Cys		
3305	3310	3315
Pro Thr Asn Phe Tyr Leu Gly Gly Asp Gly Arg Thr Cys Val Ser		
3320	3325	3330
Asn Cys Thr Ala Ser Gln Phe Val Cys Lys Asn Asp Lys Cys Ile		
3335	3340	3345
Pro Phe Trp Trp Lys Cys Asp Thr Glu Asp Asp Cys Gly Asp His		
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Ser Asp Glu Pro Pro Asp Cys Pro Glu Phe Lys Cys Arg Pro Gly		
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Gln Phe Gln Cys Ser Thr Gly Ile Cys Thr Asn Pro Ala Phe Ile		
3380	3385	3390
Cys Asp Gly Asp Asn Asp Cys Gln Asp Asn Ser Asp Glu Ala Asn		
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Cys Asp Ile His Val Cys Leu Pro Ser Gln Phe Lys Cys Thr Asn		
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Thr Asn Arg Cys Ile Pro Gly Ile Phe Arg Cys Asn Gly Gln Asp		
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Asn Cys Gly Asp Gly Glu Asp Glu Arg Asp Cys Pro Glu Val Thr		
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Cys Ala Pro Asn Gln Phe Gln Cys Ser Ile Thr Lys Arg Cys Ile		
3455	3460	3465
Pro Arg Val Trp Val Cys Asp Arg Asp Asn His Cys Val Asp Gly		
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Ser Asp Glu Pro Ala Asn Cys Thr Gln Met Thr Cys Gly Val Asp		

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Glu Phe Arg Cys Lys Asp Ser Gly Arg Cys Ile Pro Ala Arg Trp		
3500	3505	3510
Lys Cys Asp Gly Glu Asp Asp Cys Gly Asp Gly Ser Asp Glu Pro		
3515	3520	3525
Lys Glu Glu Cys Asp Glu Arg Thr Cys Glu Pro Tyr Gln Phe Arg		
3530	3535	3540
Cys Lys Asn Asn Arg Cys Val Pro Gly Arg Trp Gln Cys Asp Tyr		
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Asp Asn Asp Cys Gly Asp Asn Ser Asp Glu Glu Ser Cys Thr Pro		
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Arg Pro Cys Ser Glu Ser Glu Phe Phe Cys Ala Asn Gly Arg Cys		
3575	3580	3585
Ile Ala Gly Arg Trp Lys Cys Asp Gly Asp His Asp Cys Ala Asp		
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Gly Ser Asp Glu Lys Asp Cys Thr Pro Arg Cys Asp Met Asp Gln		
3605	3610	3615
Phe Gln Cys Lys Ser Gly His Cys Ile Pro Leu Arg Trp Pro Cys		
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Asp Ala Asp Ala Asp Cys Met Asp Gly Ser Asp Glu Glu Ala Cys		
3635	3640	3645
Gly Thr Gly Val Arg Thr Cys Pro Leu Asp Glu Phe Gln Cys Asn		
3650	3655	3660
Asn Thr Leu Cys Lys Pro Leu Ala Trp Lys Cys Asp Gly Glu Asp		
3665	3670	3675
Asp Cys Gly Asp Asn Ser Asp Glu Asn Pro Glu Glu Cys Ala Arg		
3680	3685	3690
Phe Ile Cys Pro Pro Asn Arg Pro Phe Arg Cys Lys Asn Asp Arg		
3695	3700	3705
Val Cys Leu Trp Ile Gly Arg Gln Cys Asp Gly Val Asp Asn Cys		
3710	3715	3720

Gly Asp Gly Thr Asp Glu Glu Asp Cys Glu Pro Pro Thr Ala Gln  
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Asn Pro His Cys Lys Asp Lys Lys Glu Phe Leu Cys Arg Asn Gln  
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Arg Cys Leu Ser Ser Ser Leu Arg Cys Asn Met Phe Asp Asp Cys  
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Gly Asp Gly Ser Asp Glu Glu Asp Cys Ser Ile Asp Pro Lys Leu  
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Thr Ser Cys Ala Thr Asn Ala Ser Met Cys Gly Asp Glu Ala Arg  
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Cys Val Arg Thr Glu Lys Ala Ala Tyr Cys Ala Cys Arg Ser Gly  
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Phe His Thr Val Pro Gly Gln Pro Gly Cys Gln Asp Ile Asn Glu  
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Cys Leu Arg Phe Gly Thr Cys Ser Gln Leu Trp Asn Lys Pro Lys  
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Gly Gly His Leu Cys Ser Cys Ala Arg Asn Phe Met Lys Thr His  
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Ser Ala Tyr Glu Gln Thr Phe Gln Gly Asp Glu Ser Val Arg Ile  
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Asp Ala Met Asp Val His Val Lys Ala Gly Arg Val Tyr Trp Thr  
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Asn Trp His Thr Gly Thr Ile Ser Tyr Arg Ser Leu Pro Pro Ala  
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Lys Thr Leu Ile Ser Gly Met Ile Asp Glu Pro His Ala Ile Val  
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Gln Cys Pro Pro His Met Thr Gly Pro Arg Cys Gln Glu Gln Val

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Trp Tyr Lys Arg Arg Val Arg Gly Ala Lys Gly Phe Gln His Gln		
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Arg Met Thr Asn Gly Ala Met Asn Val Glu Ile Gly Asn Pro Thr		
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Tyr Lys Met Tyr Glu Gly Gly Glu Pro Asp Asp Val Gly Gly Leu		
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Leu Asp Ala Asp Phe Ala Leu Asp Pro Asp Lys Pro Thr Asn Phe		
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Glu Ser Val Arg Gly Asn Arg Ser Leu Phe Thr Asp Leu Glu Ala Glu  
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Asn Asp Val Leu His Cys Val Ala Phe Ala Val Pro Lys Ser Ser Ser  
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Asn Glu Glu Val Met Phe Leu Thr Val Gln Val Lys Gly Pro Thr Gln  
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Glu Phe Lys Lys Arg Thr Thr Val Met Val Lys Asn Glu Asp Ser Leu  
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Lys Phe Arg Val Val Ser Met Asp Glu Asn Phe His Pro Leu Asn Glu  
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Gln Trp Gln Ser Phe Gln Leu Glu Gly Gly Leu Lys Gln Phe Ser Phe  
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Pro Leu Ser Ser Glu Pro Phe Gln Gly Ser Tyr Lys Val Val Val Gln  
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Lys Lys Ser Gly Gly Arg Thr Glu His Pro Phe Thr Val Glu Glu Phe  
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Val Leu Pro Lys Phe Glu Val Gln Val Thr Val Pro Lys Ile Ile Thr  
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Ile Leu Glu Glu Glu Met Asn Val Ser Val Cys Gly Leu Tyr Thr Tyr  
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Gly Lys Pro Val Pro Gly His Val Thr Val Ser Ile Cys Arg Lys Tyr  
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Ser Asp Ala Ser Asp Cys His Gly Glu Asp Ser Gln Ala Phe Cys Glu  
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Lys Thr Lys Val Phe Gln Leu Lys Arg Lys Glu Tyr Glu Met Lys Leu  
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His Thr Glu Ala Gln Ile Gln Glu Glu Gly Thr Val Val Glu Leu Thr  
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Gly Arg Gln Ser Ser Glu Ile Thr Arg Thr Ile Thr Lys Leu Ser Phe  
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Val Lys Val Asp Ser His Phe Arg Gln Gly Ile Pro Phe Phe Gly Gln  
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Val Arg Leu Val Asp Gly Lys Gly Val Pro Ile Pro Asn Lys Val Ile  
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Phe Ile Arg Gly Asn Glu Ala Asn Tyr Tyr Ser Asn Ala Thr Thr Asp  
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Glu His Gly Leu Val Gln Phe Ser Ile Asn Thr Thr Asn Val Met Gly  
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Thr Ser Leu Thr Val Arg Val Asn Tyr Lys Asp Arg Ser Pro Cys Tyr  
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Gly Tyr Gln Trp Val Ser Glu Glu His Glu Glu Ala His His Thr Ala  
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Tyr Leu Val Phe Ser Pro Ser Lys Ser Phe Val His Leu Glu Pro Met  
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Ser His Glu Leu Pro Cys Gly His Thr Gln Thr Val Gln Ala His Tyr  
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Tyr Leu Ile Met Ala Lys Gly Gly Ile Val Arg Thr Gly Thr His Gly  
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Leu Leu Val Lys Gln Glu Asp Met Lys Gly His Phe Ser Ile Ser Ile  
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Pro Val Lys Ser Asp Ile Ala Pro Val Ala Arg Leu Leu Ile Tyr Ala  
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Val Leu Pro Thr Gly Asp Val Ile Gly Asp Ser Ala Lys Tyr Asp Val

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Ser Leu Pro Ala Ser His Ala His Leu Arg Val Thr Ala Ala Pro Gln			
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Asp Cys Ile Asn Arg His Asn Val Tyr Ile Asn Gly Ile Thr Tyr Thr			
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Pro Val Ser Ser Thr Asn Glu Lys Asp Met Tyr Ser Phe Leu Glu Asp			
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Met Gly Leu Lys Ala Phe Thr Asn Ser Lys Ile Arg Lys Pro Lys Met			
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Cys Pro Gln Leu Gln Gln Tyr Glu Met His Gly Pro Glu Gly Leu Arg			
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Val Gly Phe Tyr Glu Ser Asp Val Met Gly Arg Gly His Ala Arg Leu			
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Val His Val Glu Glu Pro His Thr Glu Thr Val Arg Lys Tyr Phe Pro			
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Glu Thr Trp Ile Trp Asp Leu Val Val Val Asn Ser Ala Gly Val Ala			
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Glu Val Gly Val Thr Val Pro Asp Thr Ile Thr Glu Trp Lys Ala Gly			
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Ala Phe Cys Leu Ser Glu Asp Ala Gly Leu Gly Ile Ser Ser Thr Ala			
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Ser Leu Arg Ala Phe Gln Pro Phe Phe Val Glu Leu Thr Met Pro Tyr			
785	790	795	800

Ser Val Ile Arg Gly Glu Ala Phe Thr Leu Lys Ala Thr Val Leu Asn  
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Tyr Leu Pro Lys Cys Ile Arg Val Ser Val Gln Leu Glu Ala Ser Pro  
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Cys Ala Asn Gly Arg Gln Thr Val Ser Trp Ala Val Thr Pro Lys Ser  
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Leu Gly Asn Val Asn Phe Thr Val Ser Ala Glu Ala Leu Glu Ser Gln  
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Glu Leu Cys Gly Thr Glu Val Pro Ser Val Pro Glu His Gly Arg Lys  
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Asp Thr Val Ile Lys Pro Leu Leu Val Glu Pro Glu Gly Leu Glu Lys  
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Glu Glu Leu Ser Leu Lys Leu Pro Pro Asn Val Val Glu Glu Ser Ala  
930 935 940

Arg Ala Ser Val Ser Val Leu Gly Asp Ile Leu Gly Ser Ala Met Gln  
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Thr Gln Gln Leu Thr Pro Glu Val Lys Ser Lys Ala Ile Gly Tyr Leu  
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Gly Ser Leu Leu Asn Asn Ala Ile Lys Gly Gly Val Glu Asp Glu  
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Val Thr Leu Ser Ala Tyr Ile Thr Ile Ala Leu Leu Glu Ile Pro  
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Leu Thr Val Thr His Pro Val Val Arg Asn Ala Leu Phe Cys Leu  
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Glu Ser Ala Trp Lys Thr Ala Gln Glu Gly Asp His Gly Ser His  
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Glu Pro Lys Ala His Thr Ser Phe Gln Ile Ser Leu Ser Val Ser  
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Tyr Thr Gly Ser Arg Ser Ala Ser Asn Met Ala Ile Val Asp Val  
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Lys Met Val Ser Gly Phe Ile Pro Leu Lys Pro Thr Val Lys Met  
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Leu Glu Arg Ser Asn His Val Ser Arg Thr Glu Val Ser Ser Asn  
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Leu Phe Phe Thr Val Leu Gln Asp Val Pro Val Arg Asp Leu Lys  
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Pro Thr Val Lys Met Leu Glu Arg Ser Asn His Val Ser Arg Thr Glu  
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Val Ser Ser Asn His Val Leu Ile Tyr Leu Asp Lys Val Ser Asn Gln  
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